



south african
cultural observatory



Research Report

Artificial intelligence – rushed revolution or holy algorithmic grail?

The initial impact of AI on South Africa's creative work and workers

Submitted to: Department of Sport, Arts and Culture | **Submitted by:** Nelson Mandela University





South African Cultural Observatory

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August 2024

*IMAGE CREDIT: AI-augmented image/GIF generated by Llama/Meta, prompted by Amy Shelver

Acronyms & abbreviations

3D	Three-Dimensional
4IR	Fourth Industrial Revolution
AI	Artificial Intelligence
AIA	AI Act
AMPTP	Alliance of Motion Picture and Television Producers
AV	Audio-Visual
BAAI	Beijing Academy of Artificial Intelligence
CCIs	Cultural and Creative Industries
CCPA	California Consumer Privacy Act
CDEI	Centre for Data Ethics & Innovation
DCMS	Department of Culture, Media and Sports of the United Kingdom
DSAC	Department of Sport, Arts & Culture
EU	European Union
GANs	Generative Adversarial Networks
GDPR	General Data Protection Regulation
GPTs	Generative Pre-trained Transformers
IP	Intellectual Property
LLMs	Large Language Models
ML	Machine Learning
MR	Mixed Reality
NIST	National Institute of Standards and Technology
NLP	Natural Language Processing
PIPL	Personal Information Protection Law
POPIA	Protection of Personal Information Act
R&D	Research & Development
SA	South Africa
SACEM	Société des Auteurs, Compositeurs et Éditeurs de Musique
SACO	South African Cultural Observatory
SADC	Southern African Development Community
SAG-AFTRA	Screen Actors Guild - American Federation of Television and Radio Artists
TTC	Trade and Technology Council
UNESCO	United Nations Education Science and Culture Organisation
UNCTAD	United Nations Conference on Trade and Development
USA	United States of America
VFX	Visual Effects
VR	Virtual Reality
WIPO	World Intellectual Property Organisation



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Abstract

This report examines the integration and impact of Artificial Intelligence (AI) on the cultural and creative industries (CCIs) in South Africa. It presents the findings from a research study between October 2023 and July 2024 which asked the question whether AI's advent is a rushed revolution or a holy creative grail. The findings show that for most creative workers AI is both a rushed revolution and a renaissance enabling new and unimagined expression and speed. The research involved a combination of qualitative and quantitative methods, including workshops, focus groups, cases studies and interviews and a perception survey.

The report highlights the challenges and opportunities posed by AI in the CCIs and provides insights into the perspectives of creative workers policymakers, and industry experts. The research findings show that the integration of AI in the CCIs has the potential to transform creative processes, improve efficiency, and nurture innovation – and that South African creative are largely positive about AI. However, it also raises concerns about job displacement, skills development, intellectual property rights, and biases in AI algorithms. The report addresses these concerns through the lens of various tensions that have emerged alongside the uptake of AI. These include the pulls between power and policy; ethical caution versus speed of deployment; human creativity and machine 'creativity'; and ultimately between control – who or what has it – and agency (who can use it and advocate for or against it) and openness.

The report emphasises the need for proactive policies and initiatives to address these challenges across society generally and ensure the responsible and equitable integration of AI in the CCIs, specifically. Key policy considerations include applying what the researchers call a "Protection-Innovation-Remuneration Continuum" as a framework to guide policy decision-making for policymakers. Other recommendations include promoting inclusivity and diversity in AI training datasets, addressing copyright and intellectual property issues, and nurturing collaboration between different stakeholders. The report also highlights the importance of digital literacy and AI skills development, investment in data infrastructure, and the establishment of multi-stakeholder advisory councils.

The report underscores the need for a balanced approach to AI integration in the CCIs, one that leverages the potential of AI while protecting the rights and interests of creators. It calls for collaboration, dialogue, and ongoing research to navigate the evolving landscape of AI in the CCIs and to ensure that South Africa remains at the forefront of AI legislative matters in Africa, using the CCIs as a valid case study of the emerging impact of AI. By implementing the recommended policy and considering more deeply the impact of AI on creative workers and work, South Africa can create an environment – including a regulatory one – that simultaneously supports innovation and protects creators' rights as an extension of all other citizen rights, and maximizes the benefits of AI in the CCIs within ethical reason.

Key words: Artificial Intelligence, Creativity, Cultural and Creative Industries, Copyright Law, Intellectual Property, Machine Learning, Open Access

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Executive summary

The dawn of the Artificial Intelligence (AI) era heralds a paradigm shift in the cultural and creative industries (CCIs), presenting both unprecedented opportunities and formidable challenges. This South African Cultural Observatory's (SACO) report, “Artificial Intelligence – Rushed Revolution or Holy Algorithmic Grail?” offers a comprehensive examination of this transformative impact on South Africa's CCIs, unveiling a sector at a critical juncture.

This study, conducted between October 2023 and July 2024, provides a timely snapshot of the AI landscape within the CCIs, capturing the dynamic interplay between technological advancement and creative expression for creative workers and the work they produce. The study asked whether AI's advent is a rushed revolution or a holy creative grail. The findings show that for most creative workers AI is both a rushed revolution, lacking guardrails and protections, and a renaissance enabling new and unimagined expression and speed. Through rigorous primary research, including surveys, workshops, and interviews with creative workers and industry experts, the report demonstrates the multifaceted nature of AI's integration into creative processes and its implications for the future of work, cultural production, and economic growth.

The findings reveal a prevailing sense of cautious optimism among South African creative professionals. A significant majority (68%) express positivity and excitement about AI and machine learning, recognising their potential to open “a whole new paradigm of possibilities and conveniences”. This enthusiasm is reflected in the high adoption rate, with 70% of surveyed individuals reporting the use of AI tools or software in their creative work, particularly GPTs (Generative Pre-trained Transformers) and advanced software suites such as Adobe's Creative Cloud.

The aim of the research was to capture the sentiment, experience, and responses of creative workers to the dawn of the AI era, at this moment in the evolution of AI. The question of rushed revolutions versus holy grails was also asked to guide the exploration of several important debates and policy recommendations needed to support government, business and civil society interventions and responses amid the AI wave.

From the question the researchers primarily hypothesised that AI as people encounter it right now, could either be a boon or spell gloom the CCIs, creative work and workers. The researchers set out to discover which probability [boon/ holy grail; or gloom/rushed revolution] was more likely, and what attitudes the creative workers had on this question. The results are mixed but largely in favour of allowing and supporting AI's emergence, with the right protections in place.

However, this optimism is tempered by growing concerns. Creative workers, while acknowledging AI's capacity to amplify local creativity on a global scale, voice apprehensions about intellectual property rights, job displacement, and the preservation of authentic human creativity. The report explores these concerns, including copyright and ownership issues, embedded biases in AI algorithms, privacy and data security, and the potential flood of low-quality AI-generated content.

The study underscores the transformative potential of AI in enhancing productivity, automating routine tasks, facilitating rapid research and experimentation, and uncovering novel patterns. Simultaneously, it highlights the imperative for ethical considerations and effective policy development. The findings emphasise the need for a balanced approach that still supports innovation while safeguarding the rights and interests of creative workers.

To address these complex challenges, the report proposes a “Protection-Innovation-Remuneration Continuum” as a guiding decision-making framework for policymakers. This model emphasises the

critical balance between protecting creative workers and their intellectual property, promoting innovation, and ensuring fair compensation. The report outlines specific policy recommendations, including the adaptation of copyright laws, investment in skills development, promotion of ethical AI practices, and the establishment of multi-stakeholder advisory councils.

As AI continues to rapidly evolve, and no day is the same as the day before in the AI industry, the report advocates for an inclusive national vision of an AI-rich future for all South Africans, with a particular focus on creative workers and their outputs as a templar cohort for understanding the impact of AI on people and their creative work, given the uptake and penetration of AI of creative work domains. It calls for collaboration between stakeholders at local, national, and regional levels, emphasising the importance of digital literacy, AI skills development, and investment in data infrastructure.

In essence, this report serves as a crucial baseline for understanding the impact of AI integration across the CCIs in South Africa. It not only identifies challenges and opportunities but also reflects diverse perspectives on AI uptake at this pivotal moment in the algorithmic age. By providing insights into the tensions between AI's disruptive potential and its innovative possibilities, it aims to guide policymakers, industry leaders, and creative professionals in navigating the complexities of the AI era by spotlighting them and providing a policy lens through which to view the developments – an intervention more than 90% of creative workers advocated for.

On threshold of this technological revolution, the report underscores the necessity for continuous learning, adaptive policymaking, and ethical considerations. It challenges us to shape AI with our values, ensuring that it enhances rather than replaces human creativity. *Through this comprehensive analysis, the SACO report lays the groundwork for South Africa to harness the potential of AI, fostering a more vibrant, inclusive, and prosperous creative economy that honours its cultural heritage while boldly embracing the future.**

* Executive summary generated with the support of Gemini.

1 Introduction: AI – a story of disruption and tensions

It is 2024, and Artificial Intelligence (AI) is more than a trend word in modern parlance. It is a circadian action – permeating daily practice across industries, sectors, life and play; as much it represents a technological disruption. For those creative workers making creative work, it is both an undoubted revolution, the speed of which is a matter of debate. For some, it cannot happen fast enough, while for others – a larger majority – there is cause for significant pause and ethical caution. Few however debate AI's arrival as a freight train into the future.

The following report tracks the emergence of AI across the 'cultural and creative industries' – an often-under-recognised group of activities, that make up a greater 'creative sector', which ultimately forms the bedrock of the 'creative economy' – and its impact on creative work and workers in South Africa. In part, AI's disruptive daily functionality has directly impacted many digitised areas of creative work, especially those that can leverage the use of the large datasets that produce Generative AI or GenAI (for example, writing and content generation; or image and video generation). It presents the views and insights of a slice of creative workers embracing and engaging with AI, AI agents, and AI-powered software to improve, speed up or augment their workflows.

It finds, like others do that, AI is as much a tool as it is a revolution in human ability to build machines and software to improve productivity and existence. It is argued that AI is both like water, "Necessary, Ubiquitous. And the same"¹ (Beller, February 2024); and a [mirage](#) (Millar, 2023) and a [miracle](#) (Kissinger, Schmidt and Huttenlocher, 2021). It, without doubt, is a mirror of the long arc of humanity's recorded, multi-generational history, knowledge and creativity, arguably since the emergence of the printing press – although not without bias about whose histories have been better recorded than others'. It has immense powers – for good and for evil (Kissinger, Schmidt and Huttenlocher, 2021). From being able to find solutions humans are incapable of producing, trawling through massive databases and sets to make linkages we cannot see, to beating us at our own games, exemplified in 'AlphaZero's' chess superiority over human masters' and superhuman capacities of self-play reinforcement learning². AI can help humans make decisions, compress data and apply rules we have set for it, to showcase new information. According to Kissinger, Schmidt and Huttenlocher (2021), it will transform all realms of human existence.

But AI is also quantum. When we seek to find a perfect definition of it, its form changes amid the surge of AI tools, software and applications burgeoning online. As such, defining AI and its impact means considering what it is not, as much as what it is. It is not, for example, a domain or an industry, say Kissinger, Schmidt and Huttenlocher (2021). It is a tool, an enabler, and a utility (ibid.). It *is*, or *will be*, like water or electricity in the future – something we would use daily without thinking about it, but which determines many aspects of our existence. Indeed, for many years already, algorithms and early AI systems have already embedded themselves in the technology we use day-to-day. Common examples already include, inter alia, predictive text and speech recognition, algorithmic suggestions for custom content or news, personalised marketing, image recognition, navigation and geolocation services, self-driving, facial recognition, voice assistants, and early chat bots. Scott Belsky calls this moment a Cambrian moment (Belsky, 2023) – where decades of Big Data have enabled an evolutionary explosion of new software and tools with new abilities for analysis and synthesis of whole bodies of digitised knowledge and multi-media content.

This report explores the initial impact of AI on a specific sector of the economy, society and culture – the cultural and creative industries (CCIs) – and the creative workers that produce creative work

¹ <https://www.nfx.com/post/ai-like-water>

² <https://the-decoder.com/google-deepminds-new-chess-engine-beats-its-famous-alphazero/>

for these CCIs. It does so by interrogating broadly whether AI is being deployed in a rushed revolution or represents a holy algorithmic grail for creative work and workers in South Africa, based on their initial use, experience and sentiment of and toward AI tools, software, and applications.

1.1 Understanding artificial intelligence's impact on the CCIs

Without belabouring complexity as a fundamental issue in the extremely complex field of artificial intelligence, it is important to briefly explain what AI is and what the CCIs are, and how they have become fused, digitally, today. Bartneck, Lütge, Wagner and Welsh's (2021) "What is AI?" chapter in *An Introduction to Ethics in Robotics and AI*, is comprehensive and simple. In it, they present a few classifications, citing Kaplan and Haenlein's (2019) definition of AI as "a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation". They also reference Poole and Mackworth's (2010) definition of AI as "the field that studies the synthesis and analysis of computational agents that act intelligently". Bartneck et al. (2021) reference Russell and Norvig's (2010, p. viii) four schools of thought for AI, which have direct bearing on the CCIs:

Some researchers focus on creating machines that think like humans. Research within this school of thought seeks to reproduce, in some manner, the processes, representations, and results of human thinking on a machine. A second school focuses on creating machines that act like humans. It focuses on action, what the agent or robot actually does in the world, not its process for arriving at that action. A third school focuses on developing machines that act rationally. Rationality is closely related to optimality. These artificially intelligent systems are meant to always do the right thing or act in the correct manner. Finally, the fourth school is focused on developing machines that think rationally. The planning and/or decision-making that these machines will do is meant to be optimal. Optimal here is naturally relevant to some problems that the system is trying to solve (in Bartneck et al, 2021:8).

Other definitions categorise AI as:

- Computational systems that exhibit intelligent behaviour which cover a broad range of capabilities, such as learning from experience, adapting to new situations, understanding and manipulating abstract concepts, and solving problems (Müller, 2021);
- AI as a technological science that imitates and extends human intelligence, underscored by AI's ability to replicate and even surpass human cognitive abilities through methods like machine learning and neural networks (Holzinger et al., 2019); and
- AI as technology that brings 'intelligence' to machines, where AI is seen as a technology that enables machines to perform tasks that would typically require human intelligence (Marwala, 2021).

One element of human intelligence is human creative ability; and AI researchers, developers and computer scientists have spent a significant amount of time attempting to train AI to replicate human creativity, with increasing success (Millar, 2019). This focus has directly impacted the available creative work in the marketplace, and thus creative workers. While imperfect, machine generated creative products and services are mushrooming. However, to continue to perform, these systems need ever more data, and thus need (for now) human creative worker to continue to create new data inputs as referenceable content for future innovation. Millar (2019) argues that to be truly creative, machines would need to access the psychical world. But new legislation, regulation and policy is a bulwark to the rampant use of existing data (much of which is copywritten) and to the future use of creative IP.

So, what are the CCIs and how is AI impacting them? This question is the penultimate focus of this report. John Howkins' (2002), seminal book, *The creative economy: How people make money from ideas*, identified a strong connection between copyright and the creative economy, which has become one of the structural backbones of a contemporary understanding of the CCIs, and how they contribute to a greater cultural and creative sector and resultant "economies". While not uncriticized (see for example O'Connor, 2007), the past 30 years has seen a proliferation of academic research and policy hinged on the notion of the creative economy as a route to national economic growth through expanding markets for cultural goods and services. The cultural and creative industries typically bring together the arts, media, and design sectors, with a focus upon convergent digital technologies and the challenges and opportunities of globalisation (Flew, 2017). The CCIs, are those parts of the modern economy where culture is produced and distributed through industrial means, applying the creativity of individuals and groups to the generation of original cultural product, which may have commercial value either through direct sale to consumers or as intellectual property (ibid.). According to UNCTAD, the creative industries include advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, research & development, software, computer games, electronic publishing, and TV/radio and make up the creative economy, the sum of all the parts of the creative industries, including trade, labour and production (UNCTAD, 2008; 2010; 2013; 2018; 2022). Similarly, UNESCO defines culture as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, that encompasses, not only art and literature, but lifestyles, ways of living together, value systems, traditions and beliefs (UNESCO, 2001). Their definition focuses more heavily on culture whereas UNCTAD focuses on creative production. The UNESCO Framework for Cultural Statistics (FCS) (2009), on which most SACO research work is based, defines culture through the identification and measurement of the behaviours and practices resulting from the beliefs and values of a society or a social group. The Cultural Domains defined in UNESCO FCS³ (2009: 11) embody a "common set of economic (such as the production of goods and services) and social (such as participation in culture activities) activities that traditionally have been regarded as being 'cultural'. Related Domains consist of other economic and social activities that may be considered 'partially cultural or that are more often regarded as being 'recreational or leisure' rather than 'purely cultural'."

Despite slight variations on CCI definitions, many global organisations agree that technology has completely reshaped the production and reproduction of culture and creativity. The increasing importance of culture reflects long-term trends and recent innovations. The UNESCO FSC (2009), identifies growing global wealth and stability in the 1990s as leading to increased cultural consumption, making culture an essential part of economic reproduction. Digital convergence then transformed previously separate cultural industries, while the Internet revolutionised production and dissemination of cultural products. Globalisation has also fostered significant international exchange and multicultural practices through people, products and services. New technologies have also enabled rapid commercial exploitation of cultural productions, shifting economic power towards digitally reproducible and tradable cultural activities (Barrowclough and Kozul-Wright, 2006). These factors have collectively contributed to culture's growing significance in the global economy and society over the past three decades. With the emergence of AI, the speed at which digital creative services and products are being delivered and circulated rapid.

Two diagrams (below) illustrate the frameworks for visualising the CCIs, and the next section explores why these matters at the convergence of trends in digital transformation, automation, big data and ultimately AI.

³ This UNESCO framework is currently under review as of July 2024.

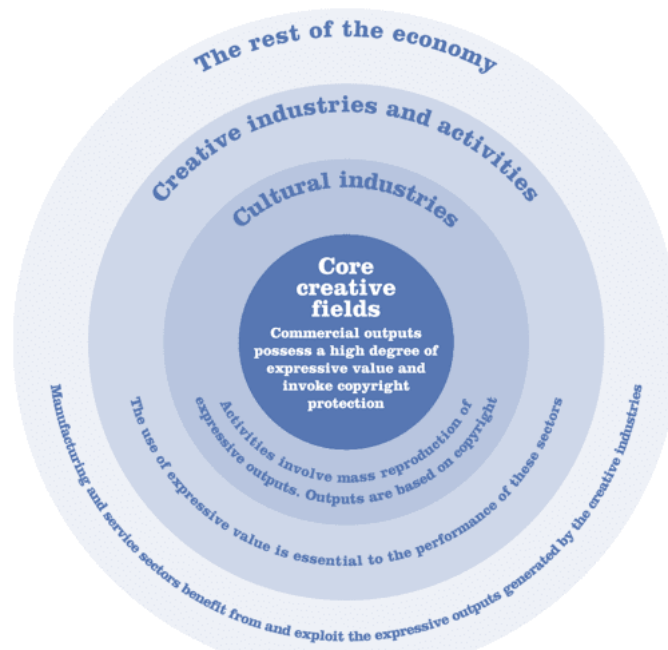


Figure 1: Illustration of the creative industries, Work Foundation report (2007: 5)

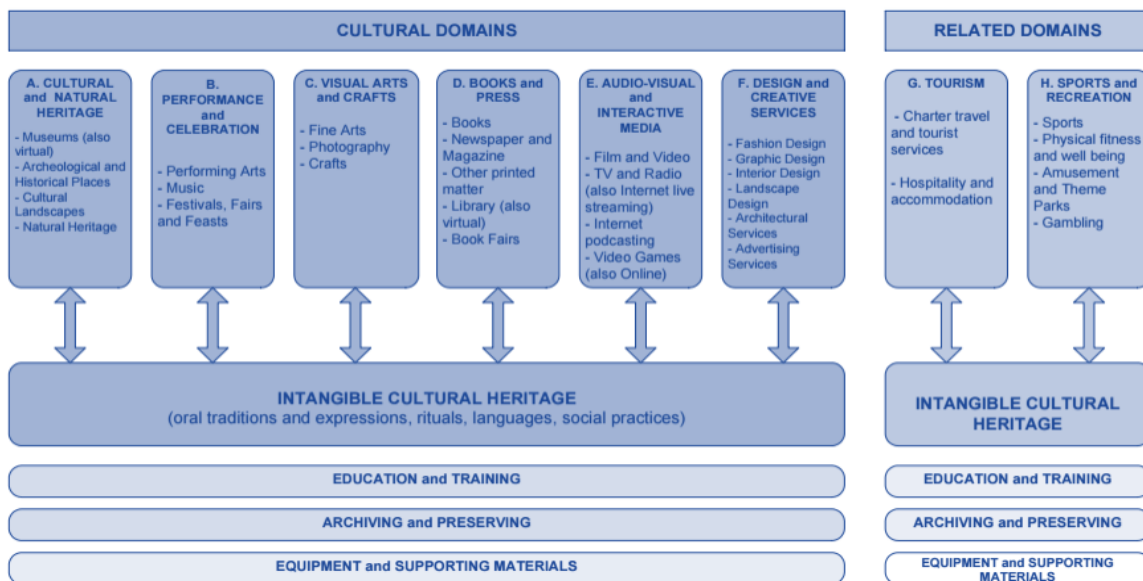


Figure 2: UNESCO Framework for Cultural Statistics – graphic representation of cultural domains (2009).

For the purposes of this report, the term CCI refers to the combined definitions of those of UNCTAD and UNESCO's cultural and related domains. A creative worker refers to any practitioner working in either a cultural or creative industry or domain.

1.2 Data, digital creative products and technology

Where there is data, there is AI – or the potential for it. The digital creative and cultural industries (CCIs), which according to the UNCTAD⁴ (2008, 2010, 2013, 2018, 2024) include software development, have generated a staggering mountain of data on which much the Internet is based: all kinds of archives, copywriting, journalism, publishing (academic to blogs), video, design, images, code, and history. This data is indexed and labelled, sorted and searchable – and therefore ready to be submitted, sequenced and sold, as many of the Big Tech firms and new AI companies have, into the algorithmic generators that create the AI results that we see in both traditional and Generative AI⁵ formats. For the creative people who have developed, skinned, and produced software and content for the Internet, the generative powers of AI reflect the Gestaltism, or the sum of all parts of all human knowledge and creativity to date, including their own. The breakthrough this represents marks the onset of a revolution, rushed or otherwise.

Many people and organisations have, since the rise of the Internet, used the trove of arts, culture and history content in the public domain (that is, out of copyright or in the ‘creative commons’), to flesh out the Internet’s many corners, while contributing their own, copyrighted information. But times are changing, and as with all revolutions, is not without major concerns and challenges. The data used is not ‘clean’ – it is full of the messiness of humanity online. There are real ownership concerns. The data itself is also not all-encompassing – there are many missing parts, and many more biases, and as more AI-generated content, information, and new AI generated information floods the internet, the water is becoming murkier, especially as to what is fact and what is fiction; what is authenticated and what is regurgitated. A recent [New York Times](#) article by Kevin Roose (19 July 2024) is telling of the state of data accessibility, only a few years into the AI ‘revolution’. “For years, the people building powerful artificial intelligence systems have used enormous troves of text, images and videos pulled from the internet to train their models. Now, that data is drying up. Over the past year, many of the most important web sources used for training A.I. models have restricted the use of their data,” he says citing research by Data Provenance Initiative, an M.I.T.-led research group, which indicates there now an “emerging crisis in consent,” as publishers and online platforms take steps to prevent their data from being harvested.

For years, A.I. developers were able to gather data fairly easily. But the generative A.I. boom of the past few years has led to tensions with the owners of that data — many of whom have misgivings about being used as A.I. training fodder, or at least want to be paid for it. As the backlash has grown, some publishers have set up paywalls or changed their terms of service to limit the use of their data for A.I. training. Others have blocked the automated web crawlers used by companies like OpenAI, Anthropic and Google (Roose, 2024).

One of the core debates around AI thus centres on ownership, intellectual property and copyright. Interestingly, the AI revolution has long been predicted and imaged by creative people. From sci-fi authors to screenwriters and filmmakers, to academics and computer scientists, the construction of intelligent machines, and human and machine interaction has been a narrative we have embraced and feared; and it has, through human creativity, art, story-telling, and cultural and creative industries, embedded itself in our psyche long before it became the viable reality it is today. The transformative and terrible disruptions associated with AI are also captured in countless

⁴ Creative industries: advertising and marketing; architecture; audiovisual, multimedia and photography; books and publishing; cultural and natural heritage; design: product, graphic and fashion design; manufacturing of crafts and design goods; music, performing and visual arts; software, video games, computer and web services; research and development (UNCTAD, 2024: 6)

⁵ Traditional AI excels at pattern recognition, while generative AI excels at pattern creation.

films and books. This is the role of creativity – the production a world of ideas and imagination made tangible in products and services that in turn influence culture – which now itself is challenged by the way in which AI is being developed and deployed as a tool. Arguably, though likely, this is because of the volume of data produced by creatives themselves. Humanity is now in a new world of trigonometric technological tensions. The authors of this report explore some emerging tensions as themes in the report analysis and synthesis below, by way of case studies, industry examples, expert testimonies, and qualitative inputs from creative workers and businesses, and adjacent authorities.

1.2.1 A thought experiment on CCI-AI impact

Imagine an audience has just watched the blockbuster film ‘*Dune: Part One*’, one of the most anticipated sci-fi motion pictures of this decade. The credits roll. The viewers in the cinema start to leave a few minutes after⁶. On screen, 1,600 plus names flicker across the monitor, offering an index to creative work. Film production is an industrial endeavour. The ‘factory’ employs hundreds of creatives across different departments spanning the CCIs: actors, make-up artists, fashion and costume designers, cinematographers, editors, marketing professionals, technicians from lighting to sound, composers, animators, 3D artists, visual effects (VFX), compositors, stunt performers, riggers, sculptors, set designers, and more. This doesn't include producers, writers, directors, accountants, and medical crew. The product is the film – and like in any manufacturing industry, the IP and labour parts make up the whole, with hundreds or in some cases even thousands contributing to the ultimate product. In this case the product is the result of an initial intellectual property input (*Dune* was written in 1965 by Frank Herbert), and adapted for screen, drawing 1,640 people to work on the production, creating jobs and a legacy piece of copyrighted IP.

Now, imagine *Dune* as a film augmented by AI. What would the credits look like? Would they be halved or doubled, with credits and co-credits to software companies and AI tools? What if *Dune*: were completely produced and developed by artificial intelligence and just a few key prompt engineers, executives and tech companies? What would the credits look like in that case? Allowing oneself to think of accreditation, attribution, and by extension direct payrolls of CCIs companies, allows one to envisage implications and disruptions, especially on the job market and economy. A completely AI-transformed film industry is a probability that is already emerging (see for example the Sora AI video generator software⁷). The same prospect is also the case for all CCIs, and other industries and sectors. Today's creative workers and business face a large-scale disruption of established practices and methods, supply and values chains, and systemic shifts in the way creative work is conceived, produced, sold and bought; and how value is added.

The story of AI's emergence and its impact on all sectors and areas of work and life is a story of extraordinary technological disruption. It is also one of the most powerful tensions between the past and the future, policy and power, creativity and automation, fear and excitement, slowness and speed, and more.

The AI era is unequivocally here. Unlike conventional disruptions of the past, AI's emergence is linked to other revolutions and technological waves already at play. AI is the supercharger for the fourth industrial revolution (4IR) powered by connectivity, data, computational power, analytics and intelligence, human-machine interaction and advanced engineering (McKinsey, 2022). The fourth industrial revolution was already a merger of the second (powered by electricity) and third (powered

⁶ IMBD listing for *Dune: Part One* (2021); Full Cast & Crew. Accessed on 10 March 2024 via: <https://www.imdb.com/title/tt1160419/fullcredits>.

⁷ <https://www.bloomberg.com/news/newsletters/2024-05-03/runway-sora-and-hollywood-ai-films-actually-get-good>

by early automation and machinery) industrial revolutions. It's existence and power will make the changes associated with the 4IR exponential; faster than ever imagined (van Leeuwen, Bosma, & Wang, 2023; Pozdnyakova, Golikov, Peters & Morozova, 2018). Already, individual or seemingly disparate technological advances are merging and intensifying disruptions – this includes combinations of AI, the internet of things (IoT), big data, blockchain, gene-editing and nanotechnology, robotics, drones, 5G and solar PV (UNCTAD Technology and Innovation Review, 2021).

The CCI's are not immune to these changes but have also not been specially considered in policy debates, despite being on the frontier of many of these changes – as developers, creators, scientists, researchers, journalists, artists, documentarians, and individual sources of data. Indeed, creative workers are, in many cases, the early adopters of these new methods, technologies and services, curious and experimental as they are as artists and innovators. But curiosity does not come without concern and not all disruptions are desirable, and opportunities equally distributed. Agency, adaptation, co-creation, regulation, and even revolt are possibilities as the AI era comes into daily practice – and a revolution can have many antagonists. This report is about interrogating exactly what the uptake of new technologies and AI means for creative work and looks like to and for creative workers; what the concerns are; and what areas of antagonism are at play. The tensions emanating from the AI era and their impact on the CCI's are both evident and emerging, as ripples of change turn into waves, then tsunamis of technology, data and code.

To demonstrate the impact of change, another film product that exemplifies the results and response to emergence of a new technology – and is a good parallel for the mixed reactions and journey into the AI era – is the famous flick, *The Gods Must Be Crazy* (1980). This story highlights disruptions that often emerge when tools and technology are introduced to different society. A comedic African adventure film set in the Kalahari Desert, the story follows a Khoi-San tribesman who encounters various absurdities and cultural disruptions after a glass Coca Cola bottle is dropped from a passing light aircraft, leading the protagonist on a journey to return the object to the gods. The film explores themes of cultural clashes, misunderstanding, and what happens when a 'primitive' society discovers and mingles with 'modern' society and its tools. In the story the mere dropping of the Coca Cola bottle from the sky as a foreign object is indicative of what happens when society only encounters change as a finished product – as opposed to the introductions of it in its incremental developing stages. In the movie, the bottle (final product) becomes a centre of disharmony because members of the tribe that find it, do not know what it is, what it does or how it is used. But because it is something new, they start fighting over it even though they don't understand its use. AI's deployment on humanity is not dissimilar to this experience – as it is unleashed among different individuals, communities, cultures, societies, industries, driving friction and fear. Fear of technological advance is an embedded human anxiety, as old as humanity itself, to a point where one can argue that it is more a fear of change that it is of technology itself.

1.3 Research focus

This report focuses on the issues that are emerging with the proliferation of AI technologies in the cultural and creative industries in South Africa. The objective of the research report is to provide information on its uptake and perceptions of it; and highlight the advantages and disadvantages of its use in the CCI's. As the importance of AI continues to swiftly grow, it is imperative not only to understand its intersection with certain sectors, but also note how that relationship would function in the South African context for creative workers and businesses.

In this report, the authors shed light on the transformative potential of AI in the CCIs in South Africa, share experiences and voices from the sector, through case studies, qualitative feedback from a National Dialogue and workshop, interviews, and a sector dipstick of 157 surveyed creative workers, conducted by SACO on behalf of the Department of Sport, Arts & Culture (DSAC) between October 2023 and March 2024. In all over 300 creative workers were engaged as part of the research. The survey findings show that creative workers' uptake of artificial intelligence is growing and largely positive, with a slant toward stronger regulation without stifling innovation. They also reflect a range of perspectives and experiences regarding the integration of AI in the CCIs in South Africa. While there is excitement and positivity, there are also concerns about intellectual property, copyright, bias, and the potential impact on human creativity. The research findings highlight the need for policy and regulation to address these concerns and ensure the responsible and equitable use of AI in the creative industries. The report also addresses concerns and challenges associated with the adoption of AI, the risk areas and challenges and generally considers whether it will be either a boon, or gloom for creativity and the overall cultural sector. These insights are explored below.

This **first section** of the report introduces the AI era as it stands in this moment in time, and its resultant disruptions and tensions in relation to the CCIs. It is followed by a **second section** outlines the research aims and methods employed by the South African Cultural Observatory undertook to obtain the perspectives and sentiments of creative workers using, or considering using AI. It tracks methodological interventions to understand whether creative workers see the AI era as an unchecked revolution or a high impact super-charger for creative work – or something in-between.

The **third section** presents a brief history of the definition, evolution and impact of AI on the CCIs through select examples of its use and application. It considers its value as a 'holy grail' for creative work; and areas where it represents a rushed revolution, problematising speed versus ethical caution. It also maps regulatory and legislative leaps to manage AI at local, regional and national levels.

The **fourth section** analyses the findings of primary research conducted by the SACO research team, that involved a combination of qualitative and quantitative methods, including workshops, focus groups, cases studies and interviews, and a survey. It presents the findings of a perception survey specifically analysing opinions on the integration of AI in creative processes; AI policy, regulation and legislation; and on its impact on human creativity. It also maps the qualitative inputs from a national dialogue and workshop with creative workers in the CCIs.

The **fifth section** offers a synthesis of the emerging themes from the survey and workshop. This section focuses on thematic tensions and includes insights from case studies and interviews conducted with AI experts and companies deploying AI in real-time; specifically focused on three areas: 1) AI's impact on creative work and daily creative production; 2) AI's impact on job displacement and skills development, and how creative workers can keep pace with it; 3) and how creative workers can approach copyright, IP, ownership, bias, fair use and compensation in the AI era, while localising value.

The **final sections** suggest policy recommendations for an AI-ready future that considers creative work and workers specifically, but also, more broadly, key issues for all industries, sectors, workers and society and culture; and conclusions from the research in service of a future outlook.

In summary, the report explores the impact of artificial intelligence on the cultural and creative industries in South Africa. It highlights several key issues and challenges that arise from the integration of AI in the CCIs. These include power imbalances and policy interventions, ethical

considerations and the speed of deployment, the debate on human creativity versus machine creativity, the impact on creative work and daily production, workforce displacement and job consolidation, ownership and copyright issues, collaboration and regional harmonization, and social and economic implications. The report concludes with a set of policy recommendations that address these issues and aim to ensure the responsible and equitable use of AI in the CCIs in South Africa. These recommendations emphasise collaboration, alignment with international standards, support for research and innovation, and the protection of creators' rights. By implementing these recommendations, South Africa can navigate the challenges and harness the transformative potential of AI in the CCIs.

2 Research aims and methodology

This section explains and outlines the methods utilised to by the South African Cultural Observatory (SACO) to conduct research for the Department of Sport, Arts and Culture (DSAC) on the initial impact of AI on creative work and workers.

The tensions between fear and the frenzied uptake of AI, and the many mixed reactions to its emergence at a consumer level, have led the authors of this report to ask, *whether AI's surfacing in the CCIs and 'ubiquitous-ness' is a rushed revolution, or the holy grail, more of a renaissance, of a creative future defined by algorithms?* This question was the premise for the research the authors conducted, and one that was asked of more than 300 South African creative workers participating in this research in different fora.

The aim of the research was to capture the sentiment, experience, and responses of creative workers to the dawn of the AI era, at this moment in the evolution of AI. The question of rushed revolutions versus holy grails was also asked to guide the exploration of several important debates and policy recommendations needed to support government, business and civil society interventions and responses amid the AI wave.

From the question the researchers primarily hypothesised that AI as people encounter it right now, could either be a boon or spell gloom the CCIs, creative work and workers. The researchers set out to discover which probability [boon/ holy grail; or gloom/rushed revolution] was more likely, and what attitudes the creative workers had on this question.

Consequently, the primary goal of this research was to provide overview of the status quo regarding the advent of AI and its impact on the South African CCIs with a view to producing policy recommendations for DSAC and other. In doing so, it aimed to answer the research question: *Is AI's integration across the CCIs a rushed revolution or the holy grail of a creative future;* and achieve the following objectives:

1. **Provide an overview** of the current state of AI and GenAI integration in the CCIs, including exploring its economic, cultural, and ethical implications and dimensions.
2. **Clearly identify and explain key concepts** in the field of AI and creativity and define the problems and concerns caused by AI in the CCIs.
3. **Identify and articulate the key challenges and opportunities** posed by the rapid adoption of AI technologies in creative work and on creative workers.
4. **Reflect diverse perspectives and voices**, including those from different cultural backgrounds and creative disciplines, in the report's findings and recommendations.
5. **Set the stage and background for ongoing and future research** and discussion on the evolving role of AI in the CCIs, as technology and practices continued to develop.

6. **Provide detailed policy insights and recommendations** for policymakers and industry stakeholders to effectively navigate the AI-driven transformation of the CCIs.
7. Align these recommendations with **various development models** implemented across different government tiers to support the South African government in adapting to and advancing its policy-making efforts.

Emerging from the core research question were several key sub-hypotheses underpinning the research process:

- Hypothesis 1: The AI era will lead to the amplification of tensions between opposing ideas and forces and directly impact the cultural and creative industries for good or bad.
- Hypothesis 2: AI-driven tools will enhance and expand creative possibilities within the cultural and creative industries, leading to new forms of artistic expression and collaboration
- Hypothesis 3: The adoption of AI technologies within the cultural and creative industries will significantly disrupt traditional workflows, value chains, and employment models.
- Hypothesis 4: The implementation of AI within the cultural and creative industries will raise significant ethical concerns around data use, intellectual property, and the potential for bias or exploitation in creative outputs.
- Hypothesis 5: The impact of AI adoption on the cultural and creative industries will be uneven, with varying levels of benefits and disruptions across different sectors, job roles, and geographical regions.

These hypotheses informed the design of survey questions, the programme of a national workshop, and the questions posed to various creative workers and business owners, and experts on technology, AI, IP and creativity.

2.1 Methodology

To answer the research question, meet the research aim and objectives, and test the hypotheses, the researchers engaged in a mixed methodology employing both quantitative and qualitative methods. A series methodological tools and processes were used to garner insights and feedback from creative workers in the CCIs on the impact of AI. These included a mixed-mode quantitative/qualitative survey; a series of qualitative interviews with industry experts and creative workers that resulted in in-depth question/answers or case studies spotlighting areas of interest related to the hypotheses; a national workshop; and a literature, policy analysis review and other desktop research to compile the findings associated with the report.

The literature review was conducted principally through desktop research of reports, policy documents, books and academic journal articles, the interrogation of AI legislation and regulation, the review of popular and media insights and stories, and sourcing of examples of AI use cases/ deployment in CCI work. It also relied on the collection and analysis of other available online sources (technology websites, opinion pieces, popular academic writing and other news platforms). The primary research included the following research methods.

2.1.1 Mixed method dipstick survey (qualitative & quantitative)

Using the research aim, objectives and hypotheses of a base for interrogation a set of 20 survey questions were produced by the research team. The questions were framed to ascertain attitude, beliefs, perceptions, views and experiences from CCI workers across different domains on AI's

impact on their work, and thus represented a dipstick survey⁸. The draft set of questions were piloted among a small focus group from a cross section of the CCIs and feedback incorporated into the final survey questions. The survey was then publicly released and CCI stakeholders prompted to take and share the survey widely. The survey was hosted on the SACO website and promoted widely to the SACO's 12,000 strong database [made up of government, academia and research, and people from the CCIs], partners and on its social media channels, and those of partners to ensure a wide uptake and responses. The goal was to secure a sample size of 100 or more respondents. The survey was open from October 2023 to March 2024. The results are all anonymised.

The dipstick survey garnered 157 full completed forms. However, there were 754 views, 330 starts, and 157 final submissions. The completion rate was 47.6%. The survey included both qualitative and quantitative questions related to the creative workers' experience of AI in general and specifically in relation to their work. The data from the survey was summarised and presented in graphs, tables, and qualitative responses presented throughout the report as insights and experiences. They are also presented in the findings section and the full set of results can be found in the addendum.

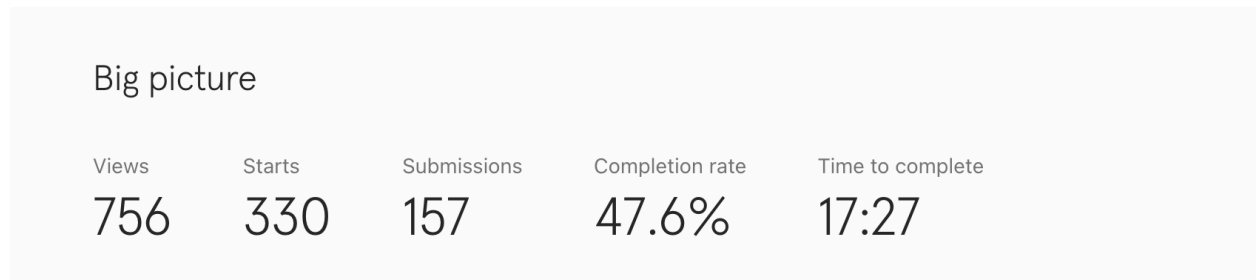


Figure 3: SACO AI Survey Engagement Results, May 2024

2.1.2 Qualitative interviews

SACO research team reached out to five (5) respondents to conduct deeper interviews with. The respondents represented a cross section of expertise and were co-identified by SACO, DSAC and via recommendations from industry experts and SACO partners. They were also identified through desktop research to find the appropriate intellectual/thought leader on the topic. The respondents included AI experts, animation business owners, virtual event companies and civil society organisations. A total of 4 out of 5 people responded positively to the request to be interviewed and a total of four (4) expert interviews⁹ were conducted. Three of those interviews/ case studies are presented in this report.

The format of the interviews was 13 semi-structured questions interwoven with contextual and follow up questions (see Addendum). The survey findings were also shared in the interview and used to inform the discussion and elicit commentary. The interviews were recorded and transcribed with the interviewee's permission. The transcripts were submitted back to the interviewees for fact-

⁸ Dipstick survey is a means for analysing the market response in different areas of study or research. Dipstick Surveys to evaluate consumer's attitude, beliefs, perceptions and views towards a product, service, concept or an idea. A dipstick survey doesn't keep responses restricted to multiple choice answers or purely quantitative data but seeks to gain a general feel rather than in statistical analysis.

⁹ AI training organisation business owner, two creative industry business owners using AI, and a civil society organisation supporting AI artists

checking, review and approval; and finalised together with the researchers. The experts signed authorised and informed consent forms to take part in the research and verified the initial drafts of their case studies and interviews which are presented in the findings section. The experts were also invited to speak at the Café AI national dialogue and workshop.

2.1.3 ‘Café AI’ national workshop and dialogue

A hybrid (delivered online and in person), national workshop was conducted targeting wide CCI attendance and participation with the goal of providing an open forum to discuss the impact of AI on creative work and workers and to debate the research question. ‘Café AI’ was hosted on 13 March 2024, gathering expert speakers and a diverse in person and online audience to tackle the research topic. The goal was to attract more than 50 participants to the national engagement. This was exceeded by an additional 59 (109 in total) in person and over 700 online attendees. The insights and opinions expressed at these workshops were anonymised (unless respondents provided written consent or offered views in a public forum, with permission). The morning session was recorded (see link below in findings section), and comments emerging from all sessions integrated into the report’s main argument and findings. The event format included a structured “for/ against” debate on the topic of whether AI is a rushed revolution or holy algorithmic grail for a creative future. This was followed by breakaway sessions under 4 key topic areas (discussed in the findings section). The afternoon programme consisted of two policy-focused breakaway sessions, one in person and one online. SACO researchers in both physical and virtual contexts captured inputs and documented the expressions of all respondents in the different fora. The event garnered 100 comments on SodaWorld, 95 on YouTube; and two flash polls were conducted with the online audience, 2 x polls ran online, and a SWOT analysis conducted on a joint Miro board¹⁰ (see Figure 4). The following topics were discussed:

- **Debate – Motion:** Artificial Intelligence: Rushed revolution or the holy grail of a creative future?
- **Workshop topics**
 - Tackling copyright, IP, ownership & mitigating against bias in the AI era
 - How AI impacts creative work and daily creative production
 - Jobs displacement, skills development, and keeping pace with AI.
 - How can we turn a disadvantage into an advantage: Local value made global, IP protected?
- **Policy discussion:** Why policy matters right now – envisaging the future

Table 1: SACO, Fak’ugesi, GIZ, DSAC Café AI National Workshop event attendance data, SACO 2024.

Event attendance data
• A total of 109 people attended in person; • 434 people watched the live stream and commented via YouTube; • 310 people attended the active online workshop, engaging by listening and commenting through our custom feed via Sodaworld.tv; and • In total 310 people registered to attend the event, including speakers, with overall numbers exceeding anticipated registration.

¹⁰ Miro is an online, collaborative whiteboard platform that can be used for: remote brainstorming, mind mapping, designing, and planning.

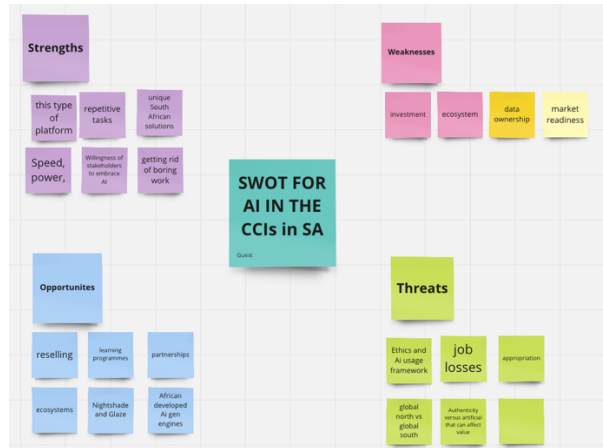


Figure 4: Digital Miro board detailing a SWOT analysis conducted by online participants of Café AI National Workshop.

Café AI Programme

The programme and panel discussants included the following speakers:

- Unathi Lutshaba, SACO Executive Director
- Victoria Kathleen Gillam, GIZ Coordinator
- Vulane Mthembu, Goethe Institute, Game Box
- Eduardo Cachucho, Creative Director: Fak'ugesi African Digital Innovation
- Douglas Scott, Director: Head of advocacy, Wikimedia South Africa
- Karabo Maiyane, Researcher, Lecturer, Nelson Mandela University
- Nosipho Maketo-Van den Bragt, CEO Chocolate Tribe
- Louise Claassen – ORBmersive Co-founder & Executive Fellow at Henley Business School Africa
- Kuben Nair, Harambee Youth Employment Accelerator Technology Director
- James E French, Arts Manager, IKS Cultural Consulting
- Oliver Scherenberg, Scherenberg Legal & Licensing (Germany)
- Dr Zeynep Engin, Founder at Data for Policy (UK)
- Deshni Govender, Country Focal Point, GIZ
- Emile Ormond, External Action Policy Officer, European Investment Bank
- Ifeanyi E. Okonkwo, Deputy Head of Sector, IP-Tech| Media| Entertainment & Data, Jackson Etti & Edu (Nigeria)
- Dr Mphikeleli Mnguni, Department of Sport, Arts and Culture
- Amy Shelver, SACO Senior Researcher and Strategist

The event was recorded and is available on the following platforms:

- 13 March 2024: Café AI (Johannesburg) Dissemination Workshop – YouTube Video Link: <https://www.youtube.com/watch?v=PYxatCsvahA>
- 13 March 2024: Café AI (Johannesburg) Dissemination Workshop – SODA World Link: <https://sodaworld.tv/cafeai>

2.1.4 Other sources included

Documentary evidence, including a literature review based on desktop research of reports, policy papers, news and media articles, opinion pieces and blogs, event summaries, legislation, and other key source documents, as mentioned above.

The research process also included information triangulation techniques which were applied, and reports/information were compared and linked to the South African context. Comparative policy analysis was also conducted and included analysis of new legislation and policy regarding AI in Europe, the USA, and other nations tackling the legislative challenges.

2.2 Terms

From a methodological perspective the following terms are used to identify different primary sources of information, mainly from survey respondents, workshop participants and interviewees:

- **Respondent:** A respondent was an individual who provided information or answers to questions posed in the SACO dipstick survey. Respondents contributed their perspectives, experiences, or opinions, which were then analysed to build arguments and draw conclusions.
- **Participant:** A participant was a person actively involved in the SACO Café AI dialogue and workshop or online meetings. They took place directly in the study's activities or interventions as either speakers or as part of focus group.
- **Case study:** A case study was an in-depth investigation of a particular instance, event, individual, group, or organisation within its real-life context. A case study involving the animation industry was conducted and involved a detailed examination and analysis of specific aspects, often using multiple data sources, to explore complex issues, generate insights, and illustrate broader principles.
- **Interview/Interviewee:** An interviewee was an individual who provided information or answers to questions from a semi-structured questionnaire, allowing for in-depth exploration of the interviewee's thoughts, experiences, and perspectives. The was qualitative and used to gain insights into specific issues or phenomena.

2.3 Limits to Scope

This study was subject to several limitations, primarily due to the constrained timeframe available for conducting the research. The limited time only permitted a focused not expansive literature review, policy analysis, and stakeholder engagement, restricting the inclusion of a larger number of respondents. Consequently, the dipstick survey reflects only a narrow segment of input from the South African cultural and creative industries and their associated domains, and of creative workers.

The scope of this report was specifically confined by the Department of Sport, Arts, and Culture (DSAC) to provide an overview of the status quo regarding the impact of artificial intelligence on the CCIs. As such, the findings are inherently limited to the research period, concluding in May 2024, with select updates from research reports, academic literature, and news development selectively included up to August 2024. Outside of the policy recommendations, the research deliberately excluded presenting any implementation plans; or suggesting monitoring and evaluation tools and processes; or clear directives on how to manage bias mitigation or some of the larger global challenges which need to be navigated in a multilateral forum. This report is fundamentally a baseline report, capturing this moment in the unfolding of the AI era.

Given the rapid advancements in AI technology, this research could only capture information, industry trends, and news as of July 2024, alongside reviews of historical evidence of AI's adoption within the CCIs. Future developments and disruptions in AI may significantly affect the relevance and accuracy of this research, potentially rendering its findings outdated. Readers should interpret the results with this limitation in mind.

Furthermore, any recommendations derived from this research should be considered in light of the ongoing and rapid changes in the technology sector. These recommendations may need to be adjusted to reflect the fast-paced nature of technological evolution. Similarly, the survey results and interview transcripts represent the opinions and perspectives as of the publication date and may lose their relevance as new technologies and applications emerge.

3 Literature and illustrations: The 'Algorithmic Age' and its challenges for creativity, creative work and workers

The fourth industrial revolution or Industry 4.0, specifically as it pertains to the advent of artificial intelligence), can also be referred to as the 'algorithmic age'. "Society, in general, is moving beyond the Information Age to the Algorithmic Society, as we all rely on algorithms to sort big data and provide information as varied as music or shopping preferences to decisions regarding loan applications or medical diagnoses" (Baker, 2018: 558). The concept of an algorithmic age refers to the time when artificial intelligence and algorithms that can mimic human intelligence, gained prominence in many fields and across many sectors. Although this advent has been well received by some, it has also been met with deep scepticism and critique by others. This section aims to briefly cover some of these developments with a specific interest in the evolution of AI in the CCIs, and related impacts. It will first provide a background into the field of AI, defining pertinent concepts emerging from literature on the topic, and the emerging challenges and opportunities along. Following this, identifies the proliferation of AI technologies in the CCIs, showing where this technology either been a boon or spelled gloom for creativity, creative work and workers.

3.1 AI disruption: A background

Like the rest of the elements of the 4IR (robotics, virtual reality, augmented reality, automation) the advent of artificial intelligence has been heralded by many as a fundamental disruption (Schwab, 2016). While AI is not a new development, its commercial and popular use at a consumer level is one, through generative AI tools¹¹. This is visible through emergence of platforms and software accessible to the public, such as Bing, Bard, ChatGPT, LLAMA, DALL-E, MidJourney, Gemini, Claude, GitHub copilot, Alli Ai, Jasper, and other tools. The revolutionary nature of this technological leap means that as much as there are significant opportunities linked to it, there are also several risks, and unforeseen and unintended consequences.

There are several definitions of artificial intelligence. Part of the reason for this multiplicity has to do with its evolution from first conceptualisation, to how it is used today. For Vincent Muller artificial intelligence is "any kind of artificial computational system that shows intelligent behaviour, i.e., complex behaviour that is conducive to reaching goals" (Müller, 2021:2). Holzinger et al. (2019) argue that artificial intelligence refers to technological science that combines methods,

¹¹ Generative tool are a type of AI that can create new content, such as images, video music, text, or code. This is used for rapid research, generating ideas, creating drafts, or producing variations on existing creative work.

technologies, and application systems to imitate and extend human intelligence. Controversially, Bringsjord and Govindarajulu (2018:1), argue that “Artificial intelligence (AI) is the field devoted to building artificial animals (or at least artificial creatures that – in suitable contexts – *appear* to be animals) and, for many, artificial persons (or at least artificial creatures that – in suitable contexts – *appear* to be persons)” (see also Russell and Norvig, 2020). Tshilidzi Marwala argues simply that artificial intelligence is “technology that brings *intelligence* to machines” (2021: 10).

Consistent among the definitions is that AI is a computational system, an algorithm of some sort, that aims to be or purports to be ‘intelligent’. What makes AI systems controversial is that in the applications, their functions seem to mimic human intelligence, or the capacity to *learn* from experience, *adapt* to new situations, ‘*understand*’ and handle abstract concepts, use knowledge to manipulate one’s environment, or deal flexibly and effectively with practical, theoretical problems (Sternberg, 2023)¹².

Artificial intelligence has been a focused academic interest since the 1950s. Although the term itself was coined in 1956 by John McCarthy and others such as Simon Newell and Marvin Minsky at a conference in Dartmouth, UK (Bringsjord and Govindarajulu 2018), there is much evidence of work related to the field dating from before 1956. One such piece of evidence is Alan Turing’s (1950) paper titled ‘Computing Machinery and Intelligence’, in which he asks whether a machine could think. Turing argues that if a machine can deceive a human being into believing it is a person, it can be considered intelligent. He developed a set of questions that later became known as the Turing Test, and which test a machine’s ability to exhibit intelligent behaviour equivalent to, or indistinguishable from, that of a human (Stanford Plato Institute, 2003¹³).

Between then and now, with the recent technological breakthroughs in computational ability and big data sets, AI’s machine learning and neural networks have returned with greater force. Artificial intelligence has demonstrated its capabilities and potential in the fields of healthcare, transportation, military, manufacturing, and creative industries. This has been met with delight on one end and disdain on the other. Although there are clear benefits of AI in multiple industries, there are also several discouraging challenges. With such a disruption in conventional ways of doing things, authors and institutions (Bostrom and Yudkowsky, 2014; Gordon & Nyholm, n.d; Muller 2021; UNESCO 2021) have raised ethical issues related to the use of AI in its various application sectors. These issues range from privacy, surveillance, manipulation, deception, opacity, bias, employment and job security, copyright and intellectual property, plagiarism and a/the singularity. The benefits and drawbacks of AI vary depending on the industry in use. The section below explores both the opportunities and challenges as they pertain to the CCIs. It considers how AI systems challenge traditional notions of artistry, creativity, and authorship and produce economic questions about the authenticity and value of AI-generated works. These are considered alongside the ethics of AI in the creative process, examining how AI technologies can either reinforce or confront existing challenges within the sector.

3.2 AI in the cultural and creative industries

Different domains and creative workers in the creative and cultural industries, especially those prone to digitalization, have adopted AI products and applications for many years, albeit at varying rates of uptake. Over the past decade applications of AI in the CCIs have dramatically increased (Davies et al. 2020). The increase in the use of AI tools is indicative of the value and the

¹² Online Encyclopaedia entry, no page: <https://www.britannica.com/science/human-intelligence-psychology>

¹³ See the Plato Institute Turning Test example: <https://plato.stanford.edu/entries/turing-test/>

opportunities that AI systems bring to industries within the sector. This section highlights positive uses of AI tools and considers the emerging obstacles associated with the algorithmic age. It begins with exploring the concept of the CCIs in relation to the different types of AI tools used. Following this, it highlights opportunity trends and associated areas of contest.

From a definitional perspective, many terms are used to describe the CCIs, and often interchangeably depending on applicable frameworks, ideologies and government policies. These terms include the: creative economy; cultural and creative economy; cultural economy; creative industries; cultural industries; cultural and creative industries; cultural domains; creative sector. However, there are nuances and differences to each of these.

Table 2: Different definitions associated with the CCIs produced by organisations and countries, SACO 2024.

Country/Organisation	Description	Definition
UNESCO	Cultural and Creative Industries	Creation, production, and commercialization of intangible, culturally relevant, copyright-protected creative content (goods or services), including all artistic and cultural productions (UNESCO FSC, 2009)
UNCTAD¹⁴	Creative Industries	Lifeblood of the creative economy, source of commercial and cultural value. Includes advertising, architecture, arts and crafts, design, fashion, film, video, photography, music, performing arts, publishing, R&D, software, computer games, electronic publishing, and TV/radio (UNCTAD, 2010; 2018; 2023; 2024).
United Kingdom (DCMS)	Creative Industries	Activities based on creativity, individual talent, and skill, with potential to create jobs and wealth through intellectual property generation and exploitation (DCMS, 1998)
ECLAC	Creative Industries (Content Industries)	Publishing, film, TV, radio, phonographic, mobile contents, independent audiovisual production, web contents, electronic games, and content produced for digital convergence.
Indonesia (BEKRAF - (Badan Ekonomi Kreatif Indonesia))	Creative Economy	Creating added value based on copyright-protected creativity, originating from cultural heritage, knowledge, and technology (Parrish (2024).

Although many of these definitions have merit, SACO and the DSAC adopted UNESCO's Framework for Cultural Statistics (2009) definition, as a basis for all its initial research, that explains the CCIs beyond the traditional music, film and video, publishing, and craft sectors to include other sectors and related domains and such as tourism, and sports and recreations (see Figure 2¹⁵). However, with new statistical frameworks are being developed¹⁶, it may be likely that new analysis frameworks may be adopted in the future. Within the definition debates, it is important to note that "[t]oday, the creative industries are among the most dynamic sectors in the world economy,

¹⁴ UNESCO and UNTAD have differed historically in their inclusion or exclusion of culture in their assessment frameworks, with the former focusing on including culture and the latter focused more on the trade of creative and not cultural goods and services. However, since 2023, UNCTAD has gone further beyond a mere economic definition of Creative Economy and encompasses artistic, cultural and industrial aspects.

¹⁵ For a detailed explanation see SACO's "The Economic Mapping of the Cultural and Creative Industries in SA 2022" report available at: <https://www.southafricanculturalobservatory.org.za/download/comments/974/>

¹⁶ Revisions anticipated from UNESCO and UNCTAD in 2024/2025.

providing new opportunities for developing countries to leapfrog into emerging high-growth areas of the world economy” (UNCTAD 2023: online).

In the CCIs there are many examples highlighting the uptake of AI from earlier applications, such as ‘autotune’ (launched in 1997) and the experimental project, ‘the Next Rembrandt’ (see Microsoft, 2016¹⁷). Auto-Tune, or autotune, is an audio processor software introduced in 1997 by the American company Antares Audio Technologies. It uses a proprietary device to measure and alter pitch in vocal and instrumental music recording and performances. The Next Rembrandt project was intended to fuel the conversation about the relationship between art and algorithms, between data and human design and between technology and emotion (ibid.). Both these tools were mostly considered co-creators in the creative process, doing the mundane work while artists provided the creative input and direction. The recent advent of generative AI and large language models has seen a change in that approach (from co-creation to direct creation), with many now concerned about the potential impact of new AI tools on creativity itself, or the blurring of the lines between machine creations and human ones.

	TEXT	AUDIO	VISUAL
DESCRIPTION	Text-oriented GenAI programs help generate, alter, contextualize, or summarize information using text-to-text and text-to-speech prompts. They can be used for administrative purposes (such as generating a summary of a script or generating routine emails) as well as for creative endeavors (like generating a storyboard or storylines). In addition, these technologies are often employed to answer complex or technical questions.	Audio GenAI programs, platforms, and technologies facilitate the manipulation of existing sounds and the development of new ones. Typical use cases include the generation of a new song or melody (text-to-audio) or voice generation for musical, dubbing, or narrative applications (audio-to-audio or text-to-audio). Applications such as Deep Composer, for example, allow users to generate melodies within seconds via a series of prompts.	Visual-based GenAI programs allow users to generate or modify images. Outputs can be “new” works generated from existing assets (text-to-image), alterations or enhancements (image-to-image), or transformations from one medium to another (image-to-video). These technologies make it possible, for example, to upload landscape photos to virtual production screens in seconds or speed up rotoscoping in post-production.
SAMPLE TECHNOLOGY	• ChatGPT • Azure AI • Bard AI • Chatsonic • Storyboard.ai	• Deep Composer • AudioCraft • Stable Diffusion • Jukebox • Dance Diffusion	• DeepDream • PhotoSonic • DALL-E 3 • Midjourney • Big Sleep
SAMPLE TASK APPLICATIONS	• Script Writing • Storyboarding • Task Organization • Task Management • Tools Programming	• Sound Editing • Sound Design • Voice Generation • Voice Cloning • Audio Translation	• 3D Modeling • Storyboarding • Animation • Concept Art • Visual Effects
PROMPT TYPES	• Text-to-Text • Text-to-Speech	• Text-to-Audio • Audio-to-Audio • Speech-to-Audio	• Text-to-Image • Image-to-Image • Image-to-Text
INDUSTRY USAGE*	68.7%	38.0%	76.7%

* Share of businesses in the six entertainment industries surveyed.
Source: CVL Economics Survey (N=300)

Figure 5: Different AI tools, technology applications and their use cases in the CCIs globally (CVL Economics, 2024).

Generative AI is both a subset and an evolution of the field of AI. Whereas traditional AI is rules-based and functions along pre-established algorithms, GenAI leverages machine learning (a computational method that learns information directly from large datasets without relying on a predetermined equation or model) to identify patterns among immense data sets to generate “new” content. In addition to appearing in standalone programmes, GenAI technologies are being integrated into preexisting consumer-facing and enterprise-level products (such as Firefly in Adobe Photoshop and Stable Diffusion in Houdini), reflecting a trend towards more sophisticated use cases that masks human creativity and content generation (CVL Economics, 2024). The image

¹⁷ <https://news.microsoft.com/europe/features/next-rembrandt/>

above shows a table of different available GenAI tools being used in the marketplace currently to generate text, audio and visual content.

The response to GenAI has been mixed in the CCIs, as will become evident in the following sections, eliciting both confidence and fear. Some of the espoused successes include improved productivity, cutting costs, and rapid content and idea generation. The quick development of AI tools and technology has the potential to redefine the economic landscape, with seismic implications for creative workers. Although these are welcome in some domains and industries, there are also significant arguments raised against their use. These issues include concerns of copyright infringement, plagiarism, misinformation and deepfakes, and the loss of intellectual property, to name a few. The next few sub-sections showcase the applications and interrogate both the positive and negative impacts and applications of these tools.

3.3 AI tooling as a holy grail for the CCIs

AI tools can be a powerful force for good and have a positive impact. In some applications, they could significantly amplify products and services produced by creative workers and businesses. This sub-section underscores where AI's transformative potential supports the CCIs globally and in South Africa. It does so by presenting examples of applications.

According to Kissinger, Schmidt and Huttenlocher humans have always dreamed of creating a powerful, comprehensive “helper” or assistant, and the emergence of AI now promises “transformations more profound than even those of the Enlightenment” (2021:19). AI is as much a tool as it is a transformative force which is reliant on human programming to determine its ethical implications. The presence and influence of AI on the CCIs are different from those of other sectors and industries, as the CCIs are often held up as a space where ideas and creativity are seen as a primarily human endeavour and quality. In the past, creativity, innovation, and culture have been seen as less vulnerable to – and more collaborative with – the forces of technological disruption (WEF and McKinsey & Company, 2018). “The creative economy and the platform economy are converging, redefining the relationship between creators, publishers and technology companies, and introducing difficult governance issues” (ibid. 3). The CCIs, and especially select domains and industries such as photography, publishing, video and audiovisual, are now it is one of the primary sites of disruption. Recent evidence has shown that AI has entered the creative value chain at every level: creation, production, dissemination and consumption (Caramiaux, 2020). Indeed, the Internet's very basis or the ‘skin’ on the code that makes it work, has leveraged creative inputs (research, publishing, design, video, images – all multimedia) to make the programming more accessible and visual. The way we consume the internet is through a creative overlay on code. This means that much of the data needed to train AI models by AI companies uses the open source published text (such as news stories issued under creative commons licences, and Wikipedia), video content, images, user generated content, public websites with scrapable data, design, and music. Fundamentally, most of the available data on the Internet emerges from the creative industries. Digitized songs, writing, video, artwork can be analysed by AI, which means that companies that can scrape this data, or have proprietary rights to it, are able to use it to advance the development of creative AI tooling (for example, Adobe with Stock and InDesign, Google with YouTube; Meta with user generated content etc.). The key point is that the structure of the internet naturally encourages the development of AI tools that learn from existing creative content and replicate it.

Generative AI applications are now able to automate tasks that were previously only thought feasible by humans. A developing driving force behind this advancement is how these technologies

help automate time-consuming ‘uncreative’ tasks within the creative value chain. Automation of repetitive tasks, it is argued, allows creative workers to focus on higher-level, more innovative aspects of their work and on generating and producing ideas rather than the whole product. In mass creative production industries such as film, TV, animation, design, marketing, and fashion, there is space to automate cyclical production-line type functions and focus on the creative input side of the value chain.

Nantheera Anantrasirichai and David Bull (2021:601) provide a resourceful summary of how AI tools have been applied in the creative sectors. They argue that AI in the creative sector has “been applied in domains and applications including audio, image and video analysis, gaming, journalism, script writing, filmmaking, social media analysis and marketing” (ibid.). They continue to argue that there are countless instances of AI use in the creative sector, such as:

- i. Content creation: where AI is employed to generate original work,
- ii. Information analysis: where statistics of data are used to improve productivity,
- iii. Content enhancement and post production workflows: used to improve quality of creative work,
- iv. Information extraction and enhancement: where AI assists in interpretation, clarifies semantic meaning, and creates new ways to exhibit hidden information, and
- v. Data compression: where AI helps reduce the size of the data while preserving its quality (Anantrasirichai & Bull 2021: 591).

These infinite options for AI deployment in the CCIs indicate a ‘Cambrian moment’ – an explosion that results from right the evolutionary factors and conditions coming into play at the right time.

In the shortage of significant analysis of AI and the CCIs, the researchers rely on examples and popular media sources to showcase how AI is being applied in the CCIs over the past few decades. Below we briefly provide examples of how AI tools are used in the context of the five categories listed above by Anantrasirichai & Bull, 2021. The bulk of these examples are summations provided by the authors above. There are more ways in which AI tools are contemporarily applied, but this serves our purpose of providing relatable examples and real-life experiences of where AI can positively benefit creative work and forge a holy grail.

3.3.1 Examples of AI at play in the CCIs globally

- **Content creation**

In terms of content creation, examples of the use of AI tools have been visible in terms of generation of scripts, films, all kinds of text, music, images, animation, augmented, virtual and mixed reality (VR, AR, MR); deep fakes; content and captions, among others.

In music creation, for example, Autotune was one of the earliest AI technologies to be applied to automatically fix vocal and intonation errors (see UNESCO & COMEST, 2019). This innovation fundamentally changed the music industry and its soundscape, enabling artists to perform and record with perfect pitch. Another example is ‘Botnik’, a machine entertainment company. Botnik¹⁸ employs an AI algorithm to automatically remix texts of existing books to create a new chapter. In one experiment, the Guardian report, the team fed the seven Harry Potter novels through their predictive text algorithm, and the ‘bot’ created rather strange but amusing sentences, such as “Ron was standing there and doing a kind of frenzied tap dance. He saw Harry and immediately began to eat at Hermione’s family” (Flood, 13 December 2017). The potential within Botnik’s powers lies in

¹⁸ <https://botnik.org/>.

the processing of narratives so machine learning programmes can study narrative development and evolution, and such methods can be applied to new forms of story development in the future (however imperfect the outputs are currently (Sautoy, 2019).

- **Information analysis**

In terms of information analysis, the use of AI tools is evident through text categorisation, advertisement and film analysis, content retrieval, recommendation services, and intelligent assistants. For example, ‘GumGum’¹⁹ is a contextual global digital advertising platform that captures people’s attention without the use of personal data and creates a new piece of art following the input of a brief idea from the user. The model is trained by recording the preferred tools and processes that the artist uses to create a painting. A Turing Test revealed that it is difficult to distinguish these AI-generated products from those painted by humans.

- **Content enhancement**

Regarding content enhancement and post-production workflows, the use of AI tools has been visible in terms of contrast enhancement, colourisation, upscaling imagery (super-resolution methods), restoration (deblurring, denoising, dehazing, mitigating atmospheric turbulence), inpainting, visual special effects. Examples of information extraction and enhancement include segmentation, recognition, salient object detection, tracking, image fusion, 3D reconstruction and rendering. The Chocolate Tribe case study in this report (see Section 5) is a practical example of how routine tasks – like rotoscoping – are being automated, impacting existing jobs but freeing space for other areas of work and concentration. The above presents select examples of ways in which AI tools are used for creative purposes and cases where the AI itself shows potential signs of creativity. The examples are indicative of the ways in which AI can be applied positively in some of the CCI domains. Other advantages include improving productivity, cutting costs, and generating initial content, research and ideas. AI tools can also be advantageous when it comes to reducing costs associated with the overall creative process.

The examples provided above showcase AI’s potential to spur economic growth and innovation – and is needed in an increasingly complex world, defined by compounding, multiplex challenges, from climate change to globalisation, population growth to pandemics and conflict. It can support humans to cut through vast datasets, synthesising and summarising the data and finding connections and solutions that may appear impossible for humans to observe. In this “superpower” of data analysis/synthesis AI can also enable new forms of creativity, such as AI-generated art, music, and storytelling, fast-tracking problem-solving and efficiency and drawing linkages between related issues and dependencies. AI technologies can contribute to solving complex problems and enhance efficiency in creative processes.

In South Africa, with its wide cultural diversity, AI benefits extend past mega-creative industries (such as film and television, and publishing) and into cultural preservation and promotion areas. While little of AI technology has been deployed yet into these domains, it is worth considering the benefits for enriching cultural preservation, creativity, accessibility, and engagement, as well as scaling existing industries to accelerate their intellectual property (IP) inputs while automating other activities. Some examples showcase its potential locally, cognisant that these opportunities extend beyond South Africa too.

¹⁹ <https://gumgum.com/artificial-creativity>.

AI can aid in the preservation and promotion of South Africa's rich cultural heritage through applications like language translation, heritage-site monitoring, and digitisation of cultural artefacts. For example, AI-powered scanning and imaging technologies can be deployed to digitise and preserve artefacts such as historical documents, artworks, and archaeological findings. This has been achieved in Australia where the digitisation of rock art in Australia has been made possible through AI-based imaging techniques, reports ABC news (Richards, 2023). This technique could be used extensively in South Africa's ancient heritage and global human origins heritage. The same can be done for wildlife and natural heritage preservation and monitoring. In turn this has an impact on the tourism domain of the CCIs, and support South Africa efforts to leverage tourism to drive economic growth (SACO, 2018; 2022).

AI tools can also help preserve indigenous South African languages through automatic translation, transcription, and speech recognition. This aids in safeguarding linguistic diversity and heritage, which aligns with the objectives of UNESCO's International Decade of Indigenous Languages (2022-2032)²⁰. A Johannesburg-based start-up called Lelapa AI²¹ is already pursuing this opportunity by building an African languages-based large language model (LLM). Recently (November 2023) Lelapa AI launched a tool, 'Vulavula', which converts voice to text and detects names of people and places in written text. This function could be useful for summarising a document or searching for someone online. Currently, 'Vulavula' can identify four languages spoken in South Africa – isiZulu, Afrikaans, Sesotho, and English. MIT Technology Review reported that the Lelapa AI team is currently working to include other languages from across Africa (Tsanni, 17 November 2023: online). Lelapa AI is trying to create a new paradigm for AI models in Africa. Co-founder Vukosi Marivate, a data scientist, said: "Instead of tapping into the internet alone to collect data to train its model, like companies in the West, Lelapa AI works both online and offline with linguists and local communities to gather data, annotate it, and identify use cases where the tool might be problematic" (ibid.).

Overall, AI can allow for comparative competitiveness, enhancing or augmenting the quality of South Africa's CCI outputs and goods and services – from film to fashion, design to architecture, making these sectors more competitive on a global scale.

Generally, creative workers can lead the AI revolution by using and becoming proficient in AI tools and embracing the transformation for national gain. A higher uptake of AI-led tools by the creative domains where AI is already deeply embedded – can spur innovative uptake that helps address societal challenges and bind cultures together while showcasing AI's potential to contribute to other turnkey sectors such as healthcare, education, and environmental sustainability. Most of these successes highlighted here are evident in cases where AI tools are used in tandem with human beings, having a "human in the loop". Although AI use has been clearly successful in some domains of the CCIs, there are some concerns about its use. These challenges are discussed in the next section.

3.4 Are the CCIs rushing into AI? Outline of emerging challenges

While AI offers numerous advantages to domains of the CCIs, it also presents potential challenges and concerns that could spell "doom" for the industry. These challenges are vast, but for the purposes of this report can be classified as under the topics of AI's impact on work, jobs and the skills economy; intellectual property, copyrights, and plagiarism; creativity itself and human

²⁰ See <https://www.iesalc.unesco.org/en/2022/02/21/a-decade-to-prevent-the-disappearance-of-3000-languages/>

²¹ <https://lelapa.ai/>

interaction in creative production; and on cultural misappropriation. In this sub-section, we outline how these challenges are emerging, again by way of popular media, select studies and illustration and example.

3.4.1 AI's impact on work, job security and the skills economy

Rapid automation through AI may lead to mass job displacement globally without adequate plans for reskilling and upskilling workforces, and significant policy guardrails (ILO, 2018; UN/ ILO, 2024). The replicability of some creative work²² and a wide online digital service industry²³ that has sprung up around the cultural and creative industries make certain areas of production and generation an easy target for AI automation. Many creative workers such as writers, journalists, academics and publishers, alongside 'creators' in the 'creator economy'²⁴, have contributed to the immense libraries of knowledge, data, images and video that populate the internet. In effect, they have fed large language models (LLMs) with their content, some of which was in the creative commons, and some copyrighted works. As AI advances, the challenge is that in some areas of the creative job market, some areas of work may become redundant and/ or transform. This is a cause of alarm across the CCIs.

The CCIs are often the canary in the coal mine, across equity models, and in this case, they are for the future of all work. One example of their heralding of the shocks of a new era of work is the United States actor's strike, which ended in October 2023 after almost a year of negotiations. The labour dispute was triggered by industry changes caused by streaming services and their effect on residuals, pensions, and healthcare. Second to that were other growing concerns such as AI advancements, consent and compensation gaps, and digital recreation (of likeness, voice, and other proprietary rights). According to Bloomberg:

Actors and writers are seeking increases in their base pay as well as a greater share of earnings from shows that appear on streaming services. SAG President Fran Drescher said compensation from streaming was a key issue as online video entertainment takes predominance over broadcast and cable TV. Both actors and writers are also seeking protections against studios using artificial intelligence to replace their jobs... For writers, there are concerns that AI could generate scripts without them. For actors, there are concerns that studios could use AI to replicate previous performances (Pender, 2023: online)²⁵.

The use of likeness and global creative content without fair acknowledgement or remuneration, and indeed, its replacement of creative work, is a significant issue on entering the AI era. Actress Scarlet Johansson in May 2024 took OpenAI to book on what she believes was the intended imitation of her voice to voice for the OpenAI chatbot. She issued a public statement saying OpenAI's chief executive, Sam Altman, had contacted her in September 2023 to provide the voice for Sky, in an ode to her role in the Spike Jonze film *Her*, but she had declined for "personal reasons" (Cain, 18 July 2024: online). Creative work is often precarious and inconsistent across many CCIs, and AI stands to further destabilise existing trends around work in these industries.

²² For example, the ability to both make templates; and programme and anticipate creative next steps based on past data and logical progression.

²³ Such as content platforms, streamers, video-on-demand channels, and creative apps like Canva.

²⁴ A software-facilitated economy that allows [content creators](#) and [influencers](#) to earn revenue from their creations (CB Insights, 2021).

²⁵ https://www.washingtonpost.com/business/2023/08/23/why-hollywood-s-writers-and-actors-are-striking/0aa051c0-41bc-11ee-9677-53cc50eb3f77_story.html

In November 2023, an opinion piece by data columnist John Burn-Murdoch, in the Financial Times expanded on what we know about AI's impact on white-collar jobs, framing the impact on the creative industries and jobs in particular. It [references a study](#) by US researchers Hui, Reshed and Zhou (2023), on the short-term effects of generative AI on employment and the results of an online labour market survey. The report showed that within a few months of the launch of ChatGPT, copywriters and graphic designers on major online freelancing platforms saw a significant drop in the number of jobs they got and even steeper declines in earnings (see Figure 4).

The graph shows not only that generative AI was taking freelance white collar creative work but also that it devalues the work they still carry out as clients choose AI tools over creative workers (Burn-Murdoch, 2023: online). “Most strikingly, the study found that freelancers who previously had the highest earnings and completed the most jobs were no less likely to see their employment and earnings decline than other workers. If anything, they had worse outcomes. In other words, being more skilled was no shield against loss of work or earnings,” he says (ibid.). Additional ethical issues arise when considering the skillset of artists in the industry. Not all artists and entrepreneurs have the skills and resources to use AI in the creation and distribution of their work advantaging some and not others. As UNESCO (2016; 2022) argues, the commercial logic of large platforms may lead to an increased concentration of cultural supply, data and income in the hands of only a few actors, with potentially negative implications for the diversity of cultural expressions more generally, including the risk of creating a new creative divide and increasing marginalisation of developing countries.

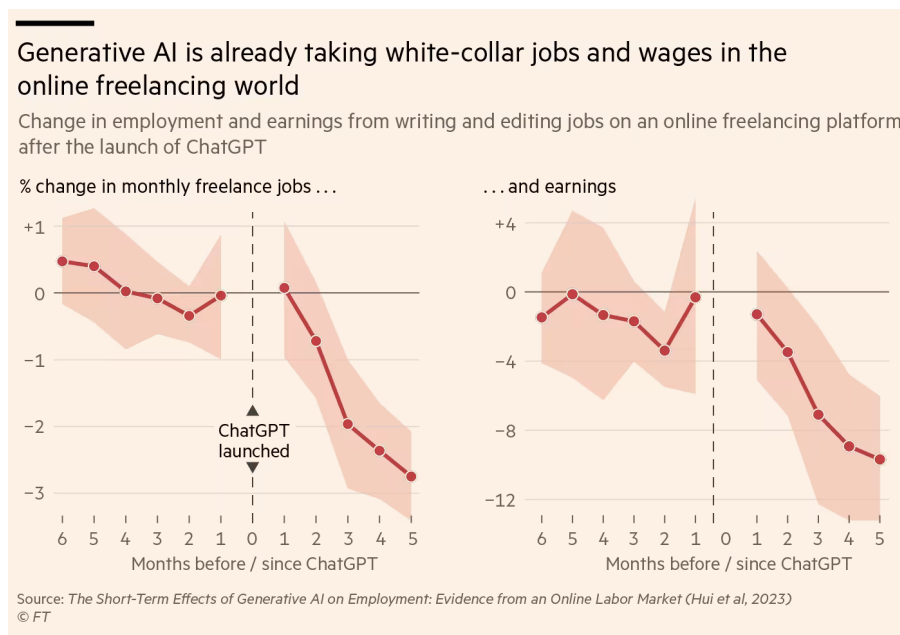


Figure 6: Short term effects of Generative AI on employment (Hui et al., 2023 in FT, 2024)

3.4.2 AI and copyright

Examining the evolving landscape of intellectual property and copyright in the context of AI-generated challenges is central to discussions around attributing authorship and protecting creative rights in AI-driven works. Some studies have raised the concern of discerning who will be credited for work created using AI (e.g. Epstein, Levine, Rand, & Rahwan, 2020; Watiktinnakorn, Seesai, & Kerdvibulvech, 2023). It is legally binding, enshrined in international intellectual property

(IP), copyright, and trademark law (see TRIPS agreement, WTO, 1995)²⁶ – that the *creator* of a piece of copyrighted intellectual property is credited with that idea and benefits from its commercialisation. However, in the case of AI also generating novel outputs, the notion of ‘creator’ becomes rather porous and fluid. Such an example appears in one of the early attempts at the use of AI in creating art, an art piece known as ‘The Next Rembrandt’²⁷. This new Rembrandt painting was created solely based on training data from Rembrandt’s body of work, deep learning, facial recognition technology and three-dimensional (3D) printing. The creative and copyright question emerged: Who was the ‘author’ of the new Rembrandt image? How could this painting be used, and could all the parties involved be credited and remunerated? Could the AI software used be credited as the author or artist? In that case, who gets rewarded? The developer of the algorithm or the prompt specialist? If a human author is replaced by machines and algorithms, to what extent copyrights can be attributed at all? Can and should an algorithm be recognised as an author and enjoy the same rights and remuneration as an artist? As Caramiaux (2020: 4) puts it, “If the author of an AI-generated work cannot be legally identified, the work may not be protected by copyright”.

Some of these issues have been settled by the assigning AI the status of composer. This was recently done by the Society of Authors, Composers and Publishers of Music (Société des Auteurs, Compositeurs et Éditeurs de Musique [SACEM]) in France with regard to the AIVA algorithm (Lauder, 2017). AIVA is an AI music generation assistant. Another example is the Google Arts & Culture residency in Paris, where artists can use the company’s AI technology in their projects. After the residency, Google owns the technological outcomes (algorithms, applications, or user interfaces), and the work created (images, texts, videos or music pieces) is owned by the artists behind them (Caramiaux, 2020: 4). In this framework, the AI-based systems are considered tools regardless of the level of human involvement, and the IP remains with the human or creator.

AI-generated works also raise issues of copyright infringement. According to Frasio (2019), “deepfakes, artificially generated media in which a person’s likeness in a video or image is replaced by someone else’s, challenge the current legal framework” (in Caramiaux, 2020: 4). This issue is especially prevalent in the music industry, where an AI tool can be trained to generate new songs using the artist’s voice and former lyrics. To whom is the new music attributed, regarding ownership and royalties? Such issues also raise problems of originality, remuneration and ownership. The same challenges are evolving in film and television. Then, as AI tools proliferate, whole cultural and creative industries and domains stand to be disrupted

Although AI tools can produce ‘original’ creative works, people are always involved in developing AI technologies and algorithms and often in creating artworks that inspire AI-generated art. From this perspective, AI can be seen as a new artistic technique, resulting in a new type of art (Lui, 2023). Another line of enquiry lies in understanding ‘creative terminology’. For instance, if it is an imperative that the idea of authorship in AI creations is preserved, an analysis of the various authors ‘behind’ each work of art and their relationships with each other and the artwork also needs to be made (Then, Soewandi, Danial, Achmad, & Sutoyo, 2023; Karakaidou, 2019). Which contributors are the final authors – and which supporting systems and people need to be credited for being part of the final output? If a master artist has apprentices, are they credited? Or is it the originator of the idea, not those who produce it? It becomes a slippery slope. The challenge being that in all artistic production process, there are many contributors, who may credit. The example of *Dune* in the beginning of this report underscores the number of people involved in making a film (1,600 in this case). One only needs to consider the inner sheath of CD or DVD covers where the

²⁶ The TRIPS Agreement, which came into effect on 1 January 1995, is to date the most comprehensive multilateral agreement on intellectual property. Available at: https://www.wto.org/english/docs_e/legal_e/27-trips_01_e.htm

²⁷ <https://news.microsoft.com/europe/features/next-rembrandt/>

credits are listed; or, the digital song credits on Spotify or Apple Music and many other creative works, to see that it takes many hands to make or create major productions in the CCIs. Along this continuum where does AI sit? In recording, the ‘artist’ credit is given to the composer; and so the originator of the main idea gets the primary credit. Contributors or co-producers are listed in the credits. Should AI be credited directly as co-producer? Or simply as contributor to the overall idea? Accordingly, new frameworks to differentiate piracy and plagiarism from originality and creativity and recognise the value of human creative work in our interactions with AI are needed. These frameworks are needed to avoid the deliberate exploitation of the work and creativity of human beings and to ensure adequate remuneration and recognition for creative worker, the integrity of the cultural value chain, and the cultural sector’s ability to provide decent jobs (UNESCO 2016; 2022).

Largely, across the literature, there is a generic concern that humans become dependent on technology and diminish the evolution of new ideas and innovation, ceding creative control on the one hand and making interconnected value and supply chains vulnerable to technological failures, such as system crashes, cyberattacks, or data breaches, disrupting cultural operations; and access, on the other. The power of the CCIs lies in the diversity of content and creativity (UNESCO 2016; 2022). AI algorithms may favour popular, mainstream content over niche or culturally diverse expressions, potentially leading to a homogenisation of cultural content and stifling cultural diversity. In the long term, a possible march to the mediocre middle of creative work is neither rushed nor revolutionary, but rather ‘meh’. A lot hinges on the idea of what creativity really is. The authors consider this next.

3.4.3 AI and human creativity

There are several debates developing on whether AI will replace human creativity as much as it replicates it (Marrone, Cropley, and Medeiros, 2024; Cropley, Medeiros, Damadzic, 2022; Millar, 2019). Computational creativity is still in its infancy, but it is likely to grow. Despite its limitations, AI can still be a valuable tool for human creativity, as it can help to generate new ideas and variations on existing concepts. Creative workers have always relied on references for new ideas and in this way, AI is no different. According to Margaret Boden (1998)²⁸, there are three types of creativity: combinational, exploratory, and transformational creativity. Combinational creativity combines familiar ideas together. Exploratory creativity generates new ideas by exploring ‘structured conceptual spaces,’ tweaking an accepted style of thinking by exploring its contents, boundaries and potential. Both these types of creativity are similar to generative AI’s algorithmic production of art; creating novel works, in the same style, as millions of others in the training data, a ‘synthetic creativity’. Transformational creativity, however, means generating ideas beyond existing structures and styles to create something entirely original. This is at the heart of current debates around AI in terms of fair use and copyright – very much uncharted legal waters in the AI context but well established in terms of human law, argue Prof. Chloe Preece and Hafize Çelik (2023).

3.4.4 Delinking human interaction

There is also the risk of delinking human interaction with the use of AI, in certain CCI domains. While automation is powerful, and a time and cost saver, the use of AI chatbots and virtual assistants in cultural institutions could depersonalise visitor interactions (Shwartz, 2024). This is especially the case in the museum or gallery context, and at tourism and heritage sites, where digital interaction potentially could reduce the emotional and meaningful connections people have with cultural experiences, human problem solving and contextual understanding – especially for

²⁸ [https://doi.org/10.1016/S0004-3702\(98\)00055-1](https://doi.org/10.1016/S0004-3702(98)00055-1)

storytelling. AI-generated content and experiences may lack the authenticity and depth of human-created cultural expressions, impacting the quality and emotional resonance of cultural artefacts and performances, literature content, meaningful music and all cultural and creative experiences that elicit an emotional response – essentially one of the things people pay for when acquiring a cultural good or service. For example Shwartz argues that:

Culture plays a significant role in shaping our communication styles and worldviews. Just like cross-cultural human interactions can lead to miscommunications, users from diverse cultures that are interacting with conversational AI tools may feel misunderstood and experience them as less useful. To be better understood by AI tools, users may adapt their communication styles in a manner similar to how people learned to “Americanize” their foreign accents in order to operate personal assistants like Siri and Alexa. As more people rely on LLMs for editing writing, they are likely to unify how we write. Over time, LLMs run the risk of erasing cultural differences (2024: online).

Still, research such as Ratten’s (2024) reveals that AI is also an enabler for certain interactions, including cultural diplomacy. Her findings show the internationalisation of art galleries enabled artificial intelligence to transform in person and online visitor experience, work and marketing, and future art gallery development ideas. Human interaction also cannot be replicated by AI. Diversity is what makes humanity and cultural experiences unique in their context. The McDonaldisation (Ritzer, 1996) of cultural experiences (and the voices and content therein) is a risk that needs to be mitigated by ensuring AI serves humanity and not just productivity or business ends. This requires greater advocacy for and advocacy for more diverse “humans-in-the-loop”²⁹ interactions in machine learning processes to infuse AI with more culturally diverse content, voices, ideas, histories and experiences (Mosqueira-Rey, Hernández-Pereira, Alonso-Ríos, 2023).

3.4.5 Cultural mis/appropriation

Cultural appropriation (or in other cases misappropriation) is “the adoption or exploitation of another culture by the more dominant culture” (Olou, 2018). Susan Scafidi, author of *Who Owns Culture? Appropriation and Authenticity in American Law*, defines cultural mis/appropriation as follows:

“Taking intellectual property, traditional knowledge, cultural expressions, or artifacts from someone else’s culture without permission. This can include unauthorized use of another culture’s dance, dress, music, language, folklore, cuisine, traditional medicine, religious symbols, etc. It’s most likely to be harmful when the source community is a minority group that has been oppressed or exploited in other ways or when the object of appropriation is particularly sensitive, e.g. sacred objects” (2005: 90-102).

In the context of AI, where data inputs do not always carry cultural codes, the threat of appropriation of culture and its misuse or offence is plausible; and more so given the dominance of bigger AI tech companies based out of western countries. The genesis of code and data in one country can lead to AI systems lacking an understanding of the cultural and historical significance of certain elements in another (Noble, 2018). This can result in the misrepresentation or commodification of cultural practices and symbols in other countries. In creative work generated by AI, this could cause social disruption, commercialise copywritten or protected works, and jeopardise historical events and heritages, if not interpreted accurately. Already there are hundreds of examples of where bias is embedded in GenAI and other algorithmic experiences. Safiya Noble

²⁹ Human-in-the-loop (HITL) machine learning is a collaborative approach that integrates human input and expertise into the lifecycle of machine learning (ML) and artificial intelligence systems.

says the “near-ubiquitous use of algorithmically driven software, both visible and invisible to everyday people, demands a closer inspection of what values are prioritized in such automated decision-making systems” (2018: 1-14). She argues that algorithmic digital decisions [can] reinforce oppressive social relationships and enact new modes of racial profiling, or what she calls *technological redlining* (ibid.). Extended into cultural domains, and diverse cultures, reinforcement of bias interacts with cultural appropriation and misappropriation. Practically, much of the challenge lies in the source data and the many steps it takes to label, categorise, class and organise data, still a major human-led task which may reflect the biases of the people doing the work (Global Partnership on AI, 2019). “These details have to be continuously fine-tuned. Getting data ready for processing can require a large amount of human intervention and preprocessing. The consensus is that it takes 80% of time to collect and clean the data and about 20% of time to analyse it (e.g. put it through machine learning processes) (Global Partnership on AI, 2019:10).

For example, Keeney and Jones (2023) strongly warn against appropriation of Australian First Nations native rites and rights. Their paper summarises issues “regarding intellectual property rights and immaterial culture through a nuanced reading of how First Nations Peoples worldwide have been forced by forms of neoliberal-capitalist exploitation of the knowledge commons to ring-fence and/or commodify their lived traditions, in many cases dating back 100,000 years and clearly predating any and all Western (First World) concepts of ownership” (2023: 1). And Jacqueline Paul’s (2023) linguistic analysis of international documents, show that indigenous peoples and colonised communities are left out when their traditional knowledge is digitised and fails to be properly protected. She says “trade treaties [WIPO, WTO] and legal agreements generally left Indigenous peoples and colonized communities out of negotiations that directly impacted them” and that traditional knowledge is “uncommodifiable” (2023:1).

“For TK to be protected, it would have to be disclosed and held within mechanisms that are deemed appropriate by legal standards, like databases. The suggestion of the use of databases in order to control and disseminate boundaries, is highly Westernized within modernity’s desire to categorize and place specific control and order within the world. There is the suggestion that databases be utilized to make it more accessible for those seeking patents to discover possible innovations and practices related to their inventions. Databases keep access restricted and excludes those that do not possess the proper technology to contribute to the database. This formality is also relational in value as it highlights the position of those with access to technology and those without (Paul, 2023: 2150).

Wagner and de Clippele (2023) argue that the cultural right to access digital content and practices is a fundamental aspect of cultural heritage preservation and knowledge dissemination. The problem is the rights lack proper enforcement, and a Western-centric approach in shaping policies and frameworks around digital cultural content, “which may not adequately reflect the diverse cultural perspectives and needs of communities worldwide” (ibid: 2). They advocate for a more global cooperation, sensitivity to local contexts, and proactive measures to bridge the digital divide, ensuring that all individuals can fully participate in and benefit from the digital cultural landscape” (ibid.). Protections are evidently critical in the AI and digital era.

While AI has the potential to benefit the cultural sector in many ways, it also brings with it a range of challenges and concerns that need to be carefully addressed to ensure that cultural heritage, cultures, people, communities, and creativity are preserved and respected in the face of AI-driven advancements. These “doom areas” reflect the complex interplay between technology and culture in a rapidly changing world. A full understanding of the implications on the CCIs is needed for public planning, investment, regulation, and public sector support.

The topics raised in the above literature, and the examples and illustrations, are indicative of the many opportunities AI tools could produce across the cultural and creative industries. It also offers a portend to the challenges that could emerge if certain guardrails are not put in place. Policy matters here. Ethical flares are being fired by international organisations and countries intent on protecting or mitigating against AI's downsides. With this has come a flurry of policymaking and many guidelines are being published, in support of shaping policy parameters and protections for all nations and peoples, especially the most vulnerable. Chief among these is the 2021 UNESCO Recommendations on the Ethics of Artificial Intelligence. This recommends member States:

- Incorporate AI systems, where appropriate, in the preservation, enrichment, understanding, promotion, management and accessibility of tangible, documentary and intangible cultural heritage, including endangered languages as well as indigenous languages and knowledges [This can be done, for example], by introducing or updating educational programmes related to the application of AI systems in these areas, where appropriate, and by ensuring a participatory approach, targeted at institutions and the public.
- Examine and address the cultural impact of AI systems, especially natural language processing (NLP) applications such as automated translation and voice assistants, on the nuances of human language and expression
- Promote AI education and digital training for artists and creative professionals to assess the suitability of AI technologies for use in their profession and contribute to the design and implementation of suitable AI technologies, as AI technologies are being used to create, produce, distribute, broadcast and consume a variety of cultural goods and services, bearing in mind the importance of preserving cultural heritage, diversity and artistic freedom.
- Promote awareness and evaluation of AI tools among local cultural industries and small and medium enterprises working in the field of culture, to avoid the risk of concentration in the cultural market.
- Engage technology companies and other stakeholders to promote a diverse supply of and plural access to cultural expressions, and in particular to ensure that algorithmic recommendation enhances the visibility and discoverability of local content.
- foster new research at the intersection between AI and intellectual property (IP), for example to determine whether or how to protect with IP rights the works created by means of AI technologies.
- Assess how AI technologies are affecting the rights or interests of IP owners, whose works are used to research, develop, train or implement AI applications.
- Encourage museums, galleries, libraries and archives at the national level to use AI systems to highlight their collections and enhance their libraries, databases and knowledge base, while also providing access to their users (UNESCO, 2022).

These initial suggestions are a powerful framework on which to construct national and regional policy. But this also requires a solid review of all related policies and legislation and how these interfaces with UNESCO's recommendations.

The next sub-section considers other key areas for regulatory, legislative and policy intervention in service of guarding against AI's negative impacts while still allowing enough space for innovation and growth of a potentially revolutionary new tool. It maps the rationale for regulatory attention, identifies which South African pieces of legislation need to be updated, outlines the contours of frameworks, policies and legislation on AI emerging from within international organisations, the Global North, Global South and Africa specifically; and finally charts the current South African AI

policy situation (as of July 2024). In this sub-section, key legislation is hyperlinked in text for ease of cross-reference.

3.5 AI needs legislative attention

The rapid advancement of artificial intelligence is outpacing existing regulatory frameworks. This technology is increasingly utilised in the cultural and creative industries for generating songs, content, research, ideas, images, solving puzzles, and synthesising information. The slow pace of regulatory development is resulting in inadequate oversight and accountability for the potential negative impacts of artificial intelligence. These include copyright infringement, embedded bias, misinformation, lack of diverse content, and the constant need for new data to enhance and improve AI systems. Globally this is a daily topic of discussion as Big Tech firms release new AI tooling, and hundreds of smaller companies burgeon in an explosive ‘Cambrian way,’ alongside new privacy and terms of service rules related to their use of personal content (see news and updates on the terms of service in Meta, Adobe, Google and others’ portals³⁰). In South Africa there are some early steps in place to navigate the evolving legislative minefield in the artificial intelligence industry. These steps are summarised in a discussion document released in May 2024 by the Department of Communication and Digital Technology (DCDT), [South African AI National Government Summit: Discussion Document](#).

Broadly, policies and legislation deployed at a national level, while important, cannot easily be implemented in silos by nations, given the global nature of AI products and services, and the inability to control company behaviour across different geographies and jurisdictions. A regional, continental (as is the case with the European Union, see below) or multilateral approach is recommended. This strategy allows nations to act as strategic blocs, effectively responding to the immense power of Big Tech companies. These companies leverage vast user bases and substantial financial resources to utilise big data sets and develop advanced AI systems.

The need for regulation, controls and frameworks is well documented. As described by Corrine Cath (2018):

Artificial intelligence (AI) increasingly permeates every aspect of our society, from the critical, like healthcare and humanitarian aid, to the mundane like dating. AI, including embodied AI in robotics and techniques like machine learning, can enhance economic, social welfare and the exercise of human rights. The various sectors mentioned can benefit from these new technologies. At the same time, AI may be misused or behave in unpredicted and potentially harmful ways. Questions on the role of the law, ethics and technology in governing AI systems are thus more relevant than ever before. Or, as Floridi argues: ‘because the digital revolution transforms our views about values and priorities, good behaviour, and what sort of innovation is not only sustainable but socially preferable – and governing all this has now become the fundamental issue’ (2018: 1-2).

³⁰ For example see these popular links to terms of reference notices: <https://www.creativeblog.com/news/instagram-ai-training>
<https://www.theverge.com/2024/6/10/24175416/adobe-overhauls-terms-of-service-update-firefly>
<https://appleinsider.com/articles/24/06/06/adobes-new-terms-of-service-unacceptably-gives-them-access-to-all-of-your-projects-for-free>
<https://policies.google.com/terms/generative-ai>
https://www.facebook.com/terms?paipv=0&eav=AfaOD-Vus2u2YNzotZqb3kGidw-P9lkiBEDcEeMeLb-pg5i8cGfvgd9-K0-QaKjWjo&_rd=1
<https://www.reuters.com/technology/meta-gets-11-eu-complaints-over-use-personal-data-train-ai-models-2024-06-06/>
<https://help.instagram.com/581066165581870>

AI's cross-cutting impact across various legislative areas, policies and legislation must be both specific enough to address individual cases and mitigate the potential downsides of AI use, and broad enough to cover a wide range of scenarios both nationally and regionally. Acknowledging this, it is critical to explore the legislative journey other nations have embarked on in governing AI, including Global North and South countries, and to consider the legislative areas where AI governance needs to be implemented as part of a policy literature review.

In the context of the cultural and creative industries, the protections related to copyright, intellectual property and ethical use of content and data are at the forefront. Under copyright and IP, the big issues include ownership, infringement, and licensing. In this the question of who the rightful owner of AI-generated and augmented content is a serious conundrum. AI can also easily replicate existing works, raising concerns about plagiarism and copyright infringement. In addition, the matter of how AI-generated works or augmentations should be licensed and monetised in a way that is fair to creators and users also looms large (See Section 4 below). From a data protection and privacy point of view it is vital to consider how vast training datasets behave, what content they train on and how to protect personal information or copyrighted material. Similarly, bias in algorithms needs to be identified and mitigated against. The growing number of examples of the embedded bias of training models, mentioned above, showcases how algorithms can perpetuate existing biases and, in some cases, lead to discriminatory outcomes and generate misinformation. In some cases, data from developing country citizens is used to build and scale algorithms without compensation or drive automation without complete, diverse, or accurate datasets. A Human Rights Watch report, for example, notes that “Governments worldwide are turning to automation to help them deliver essential public services, such as food, housing, and cash assistance. But some forms of automation are excluding people from services and singling them out for investigation based on errors, discriminatory criteria, or stereotypes about poverty” (2023: online).

In South Africa, there is no comprehensive legislation that governs the use of AI specifically. However, several existing laws are likely to be impacted by the growing use of AI technologies. The first is the [Protection of Personal Information Act \(POPIA, 2013\)](#), which governs the protection of personal information in South Africa. As AI systems often rely on the collection and processing of large amounts of data, including personal information, POPIA's provisions on data collection, storage, processing, and sharing will be crucial in ensuring the responsible and ethical use of AI. The [Consumer Protection Act \(CPA 2008\)](#) aims to protect consumers from unfair business practices and ensure product safety. AI-powered products and services will need to comply with the CPA's provisions on product liability, consumer rights, and fair marketing practices. The [Electronic Communications and Transactions Act \(ECT Act 2002\)](#) governs electronic transactions and communications in South Africa. As AI increasingly plays a role in online transactions, e-commerce, and digital services, the provisions of the ECT Act related to electronic contracts, digital signatures, and consumer protection will become more relevant.

Then there are a suite of local and international Intellectual Property Laws and agreements South Africa is bound by, as AI-generated content and inventions raise questions about copyright, patents, and ownership. South Africa's intellectual property laws, including the [Copyright Act and Patents Act \(of 1978; 2018\)](#), will need to be adapted to address the unique challenges posed by AI-created works. South Africa's labour laws may need to be updated to address the potential displacement of workers and the need for reskilling programmes at scale; and to govern how AI's automation rolls out across sectors, as it becomes more prevalent in the workplace, and impacts employment, skills development, and labour relations. This should have already been factored into policymaking in lieu of the 4IR disruption but actualisation such provisions on this have not yet come to full fruition.

A balanced approach that prioritizes ethical principles in AI development and deployment is essential for navigating the AI era effectively. As a signatory to the UNESCO Recommendation on the Ethics of Artificial Intelligence (2022), South Africa is committed to adhering to the first global standard on AI ethics, which was adopted by all 193 UNESCO Member States in November 2021. This international, multilateral guideline provides a framework for navigating the AI landscape collectively and ethically. The UNESCO guidelines emphasise the protection of human rights and dignity, grounded in fundamental principles such as transparency, fairness, and the necessity of human oversight over AI systems. South Africa's national commitment to placing humanity at the centre of this technological revolution is reflected in its adherence to these guidelines, which advocate for embracing the positive potential of AI while safeguarding against its negative impacts. These recommendations will serve as the foundation for future national policymaking, legislation, and regulation, particularly in relation to the cultural and creative industries (CCIs). In the context of a developing country, it is crucial that innovation is guided by inclusivity, ensuring that the benefits of AI are distributed broadly across society.

The AI era also demands collaboration among various stakeholders – not just the government – in shaping the AI landscape. Many creative workers and companies are already utilising AI, yet they remain critical of its shortcomings. The future success of AI in South Africa, Africa, and the Global South's creative sectors hinges on a thoughtful and strategic approach that balances innovation with ethical considerations, societal impact, and inclusivity. Strategic planning must involve collaboration, agility, and a commitment to addressing emerging challenges.

Preparedness for the future must account for the rapid pace of AI development, as well as potential decelerations. The policy environment will face numerous challenges as AI's future is shaped by technological breakthroughs, regulatory frameworks, societal acceptance, and evolving ethical considerations. AI's development is further influenced by geopolitical dynamics, economic trends, and cultural norms, making it difficult to predict its global trajectory and plan strategically at the local level.

Table 3: Summary main policy action areas from the UNESCO Recommendation on the Ethics of Artificial Intelligence (2022).

UNESCO's Recommendation on the Ethics of Artificial Intelligence (2022)

UNESCO's mandate has given the organisation a unique opportunity to lead the international effort to ensure that science and technology develop with strong ethical guardrails for decades. It continuously works in delivering globalised standards to maximise the benefits of scientific discoveries while minimising the risks; ensuring that they contribute to a more inclusive, sustainable, and peaceful world.

While the rapid rise of artificial intelligence has created many opportunities globally, this rise is not without risks such as biases, contributing factors to climate degradation and a threat to fundamental human rights. The risk factors associated with AI are worth noting and monitoring as they will begin compounding on existing inequalities that can further harm already marginalised groups.

On 23 November 2021 UNESCO produced the first-ever global standard on AI ethics, *Recommendation on the Ethics of Artificial Intelligence*, in a framework that was adopted by 193 Member States. The framework is centred around extensive Policy Action Areas, which allow policymakers to translate the core values and principles into action.

The areas of policy action include:

1. Ethical impact assessment
2. Ethical governance and stewardship
3. Data policy

4. Development and international cooperation
5. Environment and ecosystems
6. Gender
7. Culture
8. Education and research
9. Communication and information
10. Economy and labour
11. Health and social well-being

The ethical recommendations made by UNESCO are not meant to replace or alter States' obligations or rights but rather to provide an ethical guide to all AI actors, including the public and private sectors, that can act as an impact assessment of AI systems throughout their life cycle (UNESCO, 2022).

AI's current limitations, such as constraints in computational power, data availability, and algorithmic capabilities, will shape its future trajectory, defined by both breakthroughs and shortcomings in these areas. The complex and dynamic nature of AI, coupled with the interplay of various factors and uncertainties, makes the AI era both exciting and challenging. Despite these complexities, preparation is essential. This requires the imagination of possible future scenarios and the development of a new policy-making paradigm that comprehensively understands AI, its use cases, challenges, and possibilities. Understanding how AI has been managed to date can provide valuable insights into how it might be governed in the future, potentially with AI itself playing a role.

The following sub-sections will explore efforts to tame, legislate, and regulate AI at the multilateral, international, and national levels.

3.5.1 Trying to tame, regulate and legislate for the AI era

As artificial intelligence and GenAI tools, continues to grow rapidly to become a permanent feature in every aspect of society, countries around the world are designing and adopting legislation to guide adaptation, and ensure an equilibrium between innovation and safeguarding the protection of human rights (Major & Cudan, 2021). Currently, an accepted definition of artificial intelligence is yet to be established, largely due to countries, supranational and regulatory bodies or authorities choosing to separately develop the technology's use and its benefits in what has come to be understood as the 'race to AI'. Historically, the arrival of the Internet and a world wide web (www) enabled a shift towards interconnectedness as one global digital system. However, AI's development has caused a rise in digital sovereignty amongst nations as global pressure and competition in capabilities and governance frameworks increases (Cath, 2018; Smuha, 2021).

The European Union (EU), United States of America (USA) and China are chief amongst those engaged in 'geo-techno-political' competition. On 29 September 2021, the EU and USA's new Trade and Technology Council (TTC) held their first summit in Pittsburgh³¹ where they declared their opposition to AI that did not respect human rights such as privacy and non-discrimination. They also detailed their concern regarding social scoring systems, a targeted criticism of China's 'social credit' system which uses big data and other wide variety of data inputs to assess a person's social credit score. The geopolitics around AI are becoming evident through the different narratives of the technology's power, and depending on how widely accepted certain narratives become, they can become instrumental in policymaking and legislation around artificial intelligence (Carnegie Europe, 2024).

³¹ https://ec.europa.eu/commission/presscorner/detail/es/statement_21_4951

However, the pressing question is not who is winning the ‘AI race’ but rather how the technology can be regulated and governed without impacting other existing technologies thus allowing AI companies to gain an unfair market advantage. The EU has been a frontrunner in data regulation dating back to 2018 when the [General Data Protection Regulation \(GDPR\)](#) went into effect. This legislation then went on to inspire others such as the [California Consumer Privacy Act \(CCPA\)](#) and [China’s Personal Information Protection Law \(PIPL\)](#). Recently, the EU passed its AI Act (AIA) which divides the technology into categories of risk ranging from ‘prohibited AI practices’ to ‘low risk’. The AIA will impose new and significant obligations on those developing and using AI inside and outside the EU. Most of the obligations under the AIA fall on providers and deployers regardless of whether they are in the EU (Brookings, 2024).

3.5.2 Global situation

Several leading nations and international bodies have introduced significant legislative moves to address the challenges and opportunities posed by AI technology. This includes primary legislative and regulatory responses emphasising ethical AI development, focusing on transparency, accountability, fairness, and avoiding bias. Additionally, approaches are shifting towards regulations targeting specific applications of AI (e.g., in healthcare, finance) instead of blanket AI laws. Many regulations are taking a risk-based stance, stressing greater scrutiny is placed on high-risk AI systems or those with a greater potential for harm or discrimination.

3.5.2.1 AI legislation trends in international organisations and advanced nations

In the rapidly evolving landscape of AI, international organisations and advanced nations are actively shaping AI governance (see Figure 7). The United Nations, through initiatives like AI for Good and the UNESCO Recommendation on AI Ethics, is promoting ethical and responsible AI use. The EU is leading in legislative efforts with its AI Act proposal, while the US emphasises a coordinated approach to AI research and development. China, the UK, Canada, and other nations are also formulating or implementing AI regulations and guidelines. In the Global South, countries like Brazil, Bangladesh, India, and Argentina are developing national AI strategies that prioritise ethical considerations, data sharing, and regulatory frameworks. These initiatives highlight a growing awareness of AI’s potential impact and the need for responsible implementation. Africa, too, is recognising AI’s transformative potential. Countries like Mauritius, Egypt, and Rwanda have published national AI strategies, focusing on areas such as data policies, skills development, and ethical AI use. While challenges remain, these efforts demonstrate a commitment to harnessing AI for economic growth and societal well-being while mitigating potential risks. Further research and analysis are needed to fully understand the long-term implications of these diverse AI strategies for the cultural and creative industries in both the Global South and the wider international community. A summary of which regions stand to gain the most from AI is outlined, in terms of GDP impact, in Figure 7 below.

Various actions have been undertaken by international organizations, leading AI nations, countries in the Global South, and within South Africa. These international efforts reflect a shared understanding of AI’s transformative potential and the necessity of robust regulatory frameworks to ensure its benefits are maximised while safeguarding against its risks. There are also several organisations and institutions tracking policy developments, such as the OECD AI Policy Observatory, the Global AI tracker and others. The summaries below lean heavily on their work.

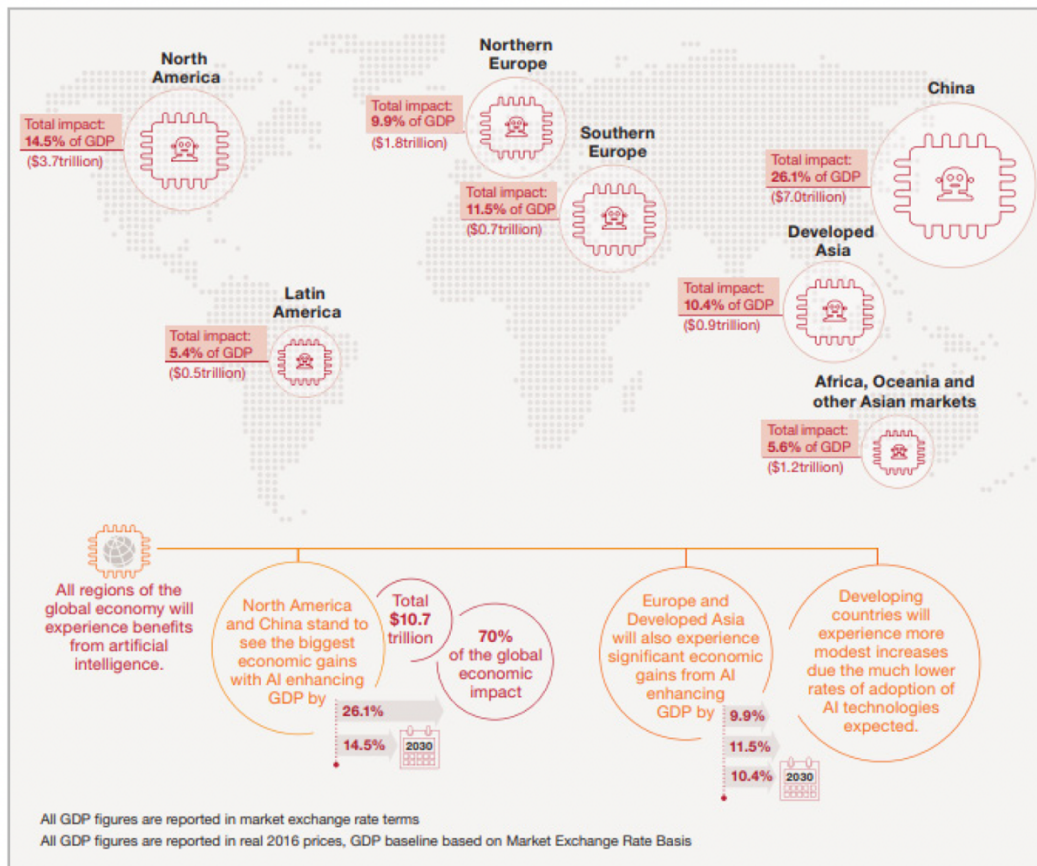


Figure 7: Which regions will gain the most from AI. Source: APRI, 2022.

3.5.2.1.1 International organisations

The United Nations and its agencies' approach to AI reflects a commitment to ensuring that this powerful technology is harnessed ethically and responsibly for the common good. The United Nation's specific actions and initiatives include:

- **AI for Good:** A platform designed to facilitate collaboration on projects and share knowledge to advance the use of AI for the SDGs lead by the International Telecommunications Union (see: <https://aiforgood.itu.int/>).
- **UNESCO Recommendation on the Ethics of Artificial Intelligence:** The first global standard-setting instrument on AI ethics, adopted by UNESCO member states (see <https://en.unesco.org/artificial-intelligence/ethics>).
- **UN High-Level Advisory Body on AI:** A multi-stakeholder body providing analysis and recommendations on international AI governance (see: <https://www.un.org/techenvoy/ai-advisory-body>).
- **United Nations Activities Report on AI:** An annual report cataloguing AI projects by various UN agencies, demonstrating how AI is being used to support the SDGs (see: https://www.itu.int/dms_pub/itu-s/opb/gen/S-GEN-UNACT-2021-PDF-E.pdf).
- **Principles for the Ethical Use of Artificial Intelligence in the United Nations System:** A set of principles approved by the UN High-Level Committee on Programmes and the UN Chief Executives Board to guide the UN's internal use of AI (see: <https://unsceb.org/topics/artificial-intelligence>).

Their multilateral efforts indicate a global interest and commitment to implementing guardrails for AI deployment. Similarly In the European Union, much preparatory work has been done. In 2019 the EU Commissions' independent high level expert group on artificial intelligence put forward the document, *Ethics Guidelines for Trustworthy AI: Key principles (2019)*, emphasising human-centric AI aligned with EU values (Global AI Tracker, 2023). The European Union is leading in legislative initiatives to protect its 440-million EU citizens directly, but also many more around the world as the EU AI Act becomes a global benchmark for others. In March 2024, the EU launched the landmark AI Act proposal for regulating AI based on a risk-based approach. It places restrictions on potentially harmful AI uses.

3.5.2.1.2 Select examples of leading AI countries legislative developments

- The United States has published numerous frameworks and guidelines addressing AI. In May 2023, the Biden-Harris administration updated the National AI Research and Development Strategic Plan – emphasising the need for a coordinated approach to collaborative AI research (Global AI Tracker, 2023). Specific AI governance law and policies include: the [AI Training Act \(2023\)](#); [National Artificial Intelligence Initiative Act of 2020](#) – this bill establishes the National Artificial Intelligence Initiative and sets forth related activities. The [AI in Government Act \(2020\)](#) creates the AI Center of Excellence within the General Services Administration. Various states, such as California, are developing their own AI regulations (Global AI Tracker, 2023).
- China was one of the first countries globally to implement any AI legislation. Currently they are in the process of drafting comprehensive AI regulation which include the Algorithmic Recommendation Management Provisions, Interim Measures for the Management of Generative AI Services, Deep Synthesis Management Provisions, AI guidelines and summary of regulations, Scientific and Technological Ethics Regulation and the Next Generation AI Development Plan (Global AI Tracker, 2023).
- The United Kingdom has approached their AI regulation by applying a context-based method which relies on existing sectoral laws. Some of the resources they consult for policy guidelines include and AI RoadMap which outlines strategy and approach to AI governance, including ethical principles and plans for regulation; and the establishment of a Centre for Data Ethics & Innovation (CDEI) a body focused on ethical and responsible AI use (Global AI Tracker, 2023).
- Canada is currently developing their [Artificial Intelligence and Data Act \(AIDA\) 2024](#), which intends to protect Canadian citizens and firms alike from high-risk systems while ensuring the development of responsible AI. The Act also aims to prohibit reckless and malicious uses of AI under enforcement from the Minister of Innovation, Science and Industry. The country also issued a Directive on Automated Decision-Making which requires federal institutions to assess the impact of AI decision-making (Global AI Tracker, 2023).

3.5.3 Global South AI strategies

In the Global South, several nations have taken proactive steps to shape the trajectory of AI development and deployment, often with an emphasis on ethical considerations and societal impact (Global AI Tracker, 2023). According to the Global AI Tracker, Brazil, for instance, has published a comprehensive AI strategy that prioritises ethical solutions and proposes financial backing for research projects in this area. Additionally, it advocates for data sharing in accordance with existing data laws and proposes the creation of an AI observatory to continuously monitor the technology's impact. Proposed legislation in Brazil further highlights a commitment to human rights, including the prohibition of 'excessive risk' systems and the establishment of a regulatory body to enforce the law, like that of the EU (Global AI Tracker, 2023).

Bangladesh's National AI Strategy for 2019-2024 focuses on overcoming challenges associated with AI implementation and leveraging the technology for social and economic growth. This was

formalised in March 2024 with the publishing of the Bangladesh National Artificial Intelligence Policy 2024 by Department of Information and Communication Technology. India, on the other hand, has proposed a Digital India Act to replace their IT Act of 2000, with provisions for regulating high-risk AI systems (OCED AI Policy Observatory, 2024; International Artificial Intelligence Industry Alliance, 2020). The establishment of a task force to address ethical, legal, and societal issues related to AI underscores India's commitment to responsible AI development. Argentina is also developing a National AI Plan to facilitate AI use and development within the country. Under Resolution 2/2023, the government has released recommendations for trustworthy and reliable AI directed specifically towards the public sector (Argentina Government, 2023; OCED AI Policy Observatory, 2024; International Artificial Intelligence Industry Alliance, 2020).

The above strategies and initiatives from the Global South reveal a growing awareness of AI's potential impact on various aspects of society. By prioritising ethical considerations, data sharing, and regulatory frameworks, these countries are laying the groundwork for responsible AI integration that innovation while mitigating potential risks – it's a fundamental baseline that would also protect the cultural and creative industries, depending on the depth of their coverage and case law. Further research and analysis are needed to fully understand the long-term implications of these strategies for CCIs in the Global South. This is beyond the scope of this report however an important area of future research.

3.5.4 Regional situation: Africa's AI response

Africa is playing an emerging role in the global AI supply chain, particularly in the early production phase. A few African countries have begun to formulate responses to the rise of AI, recognising its potential to transform various sectors, including the CCIs (see Figures 8 and 9 below). Particularly encouraging, says Rachel Adams (2022), is the adoption by the African Union Commission of the *Continental Data Policy Framework* in February 2022, which underscores equitable access to digital and data-driven technologies for all Africans. Countries such as Egypt, Rwanda and Mauritius have published national AI strategies in the past few years, followed by South Africa in 2024. Mauritius, stands out as the first African country to publish a [national AI strategy](#), back in 2018. The strategy emphasises AI's impact on various industries like manufacturing, healthcare, fintech, and agriculture. It also highlights specific areas of focus, such as AI in the Ocean Economy and AI in Energy Management. Mauritius has further established an AI Society and an AI Ethics Committee, demonstrating a proactive approach to addressing the ethical and societal implications of AI technologies (Adams, 2022; OECD AI Policy Observatory, 2024).

Egypt, for instance, published its [National AI Strategy](#) in July 2021, with a focus on four key pillars: AI for government, AI for development, capacity building, and international activities. The strategy's primary goal is to ensure that AI adoption aligns with Egypt's national developmental priorities. Egypt's policy focuses on utilising AI technology in key priority sectors such as agriculture, healthcare, economic planning and growth, manufacturing and smart infrastructure management, Arabic natural language processing, finance and banking, and general awareness (Adams, 2022; OECD AI Policy Observatory, 2024).

Egypt aims to become a regional and global leader in AI research and development while ensuring sustainable development and economic growth. Additional initiatives include an AI roadmap and a Charter for Responsible AI, highlighting a commitment to ethical and responsible AI implementation. Both the Egypt and Rwanda's AI strategies focus on data policies and ensuring access to public data. However, as argued by Adams (2022), in the case of Egypt's national AI strategy, unfavourable foreign agreements should not be taken up to support AI that is incompatible with realising inclusive developmental priorities (Adams, 2022).

Rwanda finalised its [National AI Policy](#) in 2023 (OECD AI Policy Observatory, 2024). The policy has six priority areas, subdivided into enablers, accelerators, and safeguards. Similar to that of Egypt, Rwanda affords priority to ‘enablers’ such as skills capacity and data availability and will be looking to advance the adoption of AI in both public and private sectors, for the benefit of wider society. The AI policy of Rwanda aims to leverage AI to power economic growth, improve quality of life, and position Rwanda as a global innovator for responsible and inclusive AI. The policy also includes key policy recommendations such as reskilling the workforce, establishing AI university education and research programs, adapting education to empower young learners with STEM skills, ensuring access to reliable infrastructure and compute capacity, creating pathways to AI-ready data, strengthening AI policy and regulation, and supporting private sector adoption of AI. The policy recommends the establishment of a Responsible AI Office (RAIO) within the Ministry of ICT and Innovation to lead implementation and coordinate stakeholders. The RAIO will also monitor and evaluate the implementation of the policy and participate in global AI governance and policy fora.

Other African nations such as Kenya and Uganda are also slowly exploring the potential of AI for their creative economies and CCIs. Then on the 17 June 2024, the African Union unanimously endorsed landmark Continental Artificial Intelligence (AI) Strategy and African Digital Compact to accelerate Africa’s digital transformation by unlocking the potential of the new digital technologies. The Continental AI Strategy provides guidance to African countries to harness artificial intelligence to meet Africa’s development aspirations and the well-being of its people, while promoting ethical use, minimising potential risks, and leveraging opportunities. In a press release, Commissioner Dr, Amani Abou-Zeid “commended the endorsement of the strategy as a timely and strategic move while emphasising ‘Adapting AI to African realities is critical. *AI systems should be able to reflect our diversity, languages, culture, history, and geographical contexts. As we aim to create an inclusive AI ecosystem and a competitive African AI market that is adapted to our realities and meets our ambitions, we believe examining and approving this strategy will provide a common vision and path to accelerate responsible AI innovation and adoption in Africa*” (AU, 2024: online). In August 2024, the Executive Council of the African Union (AU) approved the *Continental Artificial Intelligence Strategy*, which promotes AI adoption in the public and private sectors among member states (AU, 2024b: online)

There are still significant policy and praxis roadblocks, including the need for upskilling and infrastructure development to ensure that African creators, and the African industrial ecosystems, can fully harness the benefits of AI beyond the consumer end of the value chain and experience. Additionally, concerns around intellectual property rights and algorithmic bias need to be fundamentally addressed to ensure equitable and fair use of AI in the creative sector. It is important to do so working in regional groups or blocs; and for there to be national alignment strategies. In the next sub-section, we look at the South African government’s attempts to do so.

3.5.4.1 Relevant timelines in AI legislation

Figures 8 and 9 summarise the timelines of the development of AI legislation, policy, guidelines and frameworks globally (Figure 8) and on the African continent (Figure 9).

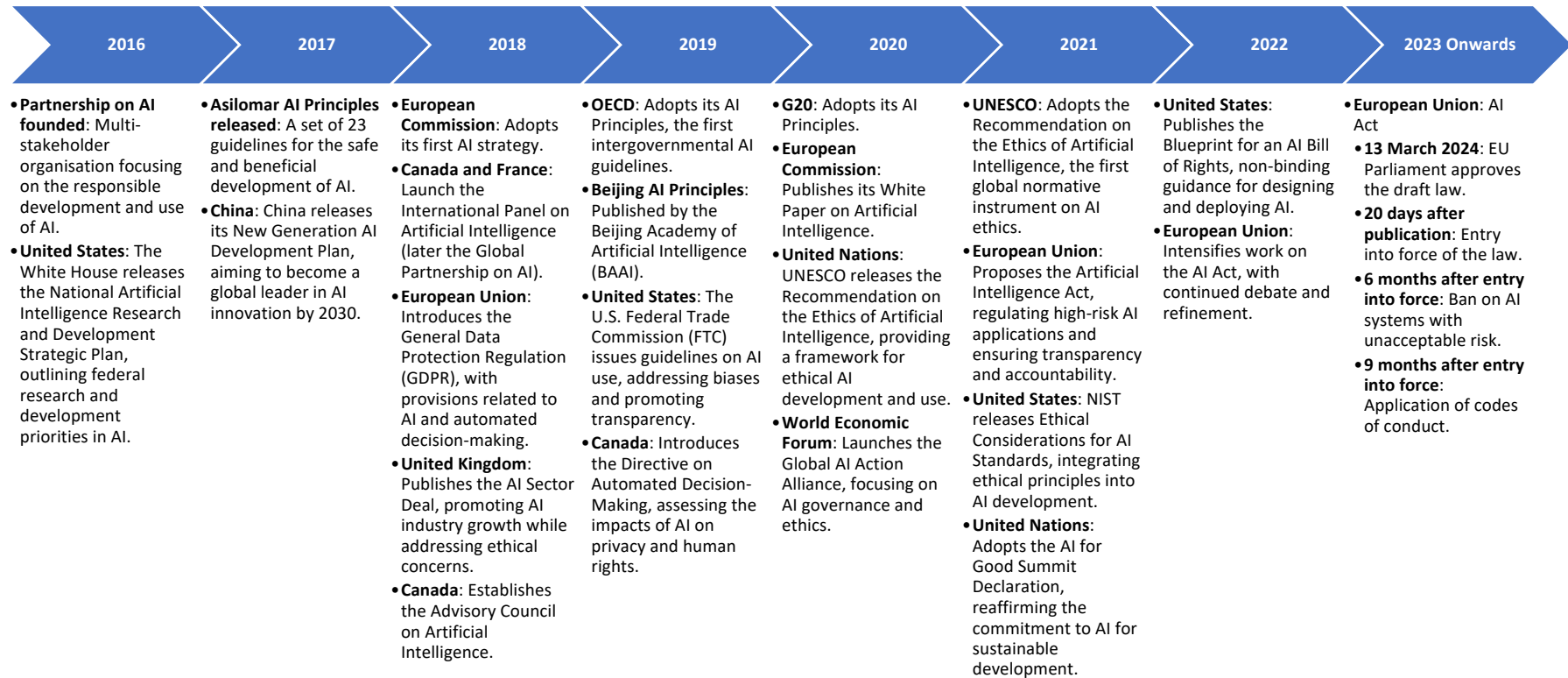


Figure 8: Summary of timeline of key developments among nations of the Global North and international organisations in the last decade. Source: SACO, 2024

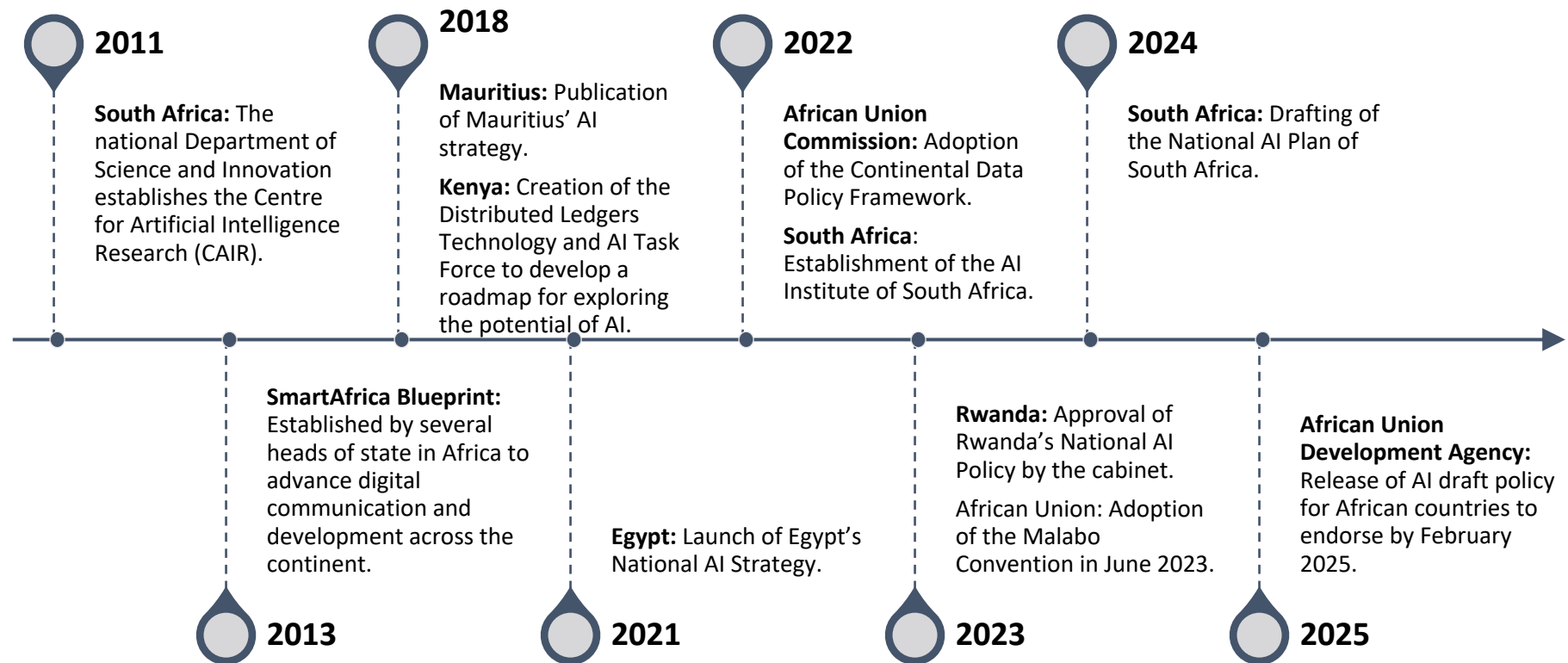


Figure 9: Summary of timeline of key developments in AI legislation on the African continent 2011-2023. Source: SACO, 2024

3.5.5 South African AI policy situation

South Africa is ranked 77th on the World AI-readiness Index compiled by the University of Oxford out of 193 nations (Oxford Insights, 2023). As of May 2024, there was no legislation in the country that governs the use of AI and machine learning. AI's rapid development does give rise to the issue of its compliance with data protection regulations such as South Africa's Protection of Public Information Act (POPIA, 2013). POPIA is governed by Section 14 of the Constitution and aims to safeguard personal data while facilitating the seamless transfer of information within South Africa and abroad. POPIA however does not prohibit the processing of personal information that has been de-identified (VDT Attorneys Inc, 2024). Furthermore, existing legislation such as the Copyright Amendment Bill (2018) with its 'Fair Use' provision, allows anyone the use of any creative product without prior consent. The CCIs have pushed back against this legislation on the premise, they believe, is that intellectual property is no longer sufficiently protected, and that fair use is a problematic western term applied in an African context of shared cultural ownership (Ncapancapa, 2024: online; Holomisa, 2024: online; Tomaselli, 2022). This phrasing in the bill was a huge blow for many industries, and workers therein, but especially those producing copyrighted works in the cultural and creative industries. With this complex legislative situation (Beiter et al, 2022; Tomaselli, 2022) and the effects of AI, the CCIs and creative workers are at risk of being exploited both by foreign technologists and even local or continental mega-corporations, and their data or works being on-sold by third parties. Keyan Tomaselli (2022: 14) outright argues that it would hurt the local research and publishing industry and undermine intellectual property rights.

Copyright aside, there are also significant privacy issues related to the use of data, personal and professional, in the AI era. The evolving relationship between AI and data privacy means it is unclear whether they will be mutually exclusive or co-exist, but it is imperative for regulators and legislators to address these issues quickly. One such move in that direction has been the development of a draft national AI discussion document, which was officially released at an event hosted by the Department of Communications and Digital Technology (DCDT) in May 2024. Despite significant critique, the document is an important stepping stone toward policy, legislation and regulation of AI. The document outlines South Africa's 'research-first' approach to AI (DCDT, 2024). This involves a combination of government-led initiatives, collaboration with academia and the private sector, and the establishment of research centres. The origins of this approach lie in the establishment of the Centre for Artificial Intelligence Research (CAIR) in 2011 by the national Department of Science and Innovation (DCDT, 2024: 15). The aim of CAIR is to build world class AI research capacity in South Africa. Since launching, it has established nine research groups focused on: Adaptive and Cognitive Systems, AI and Cybersecurity, AI for Development, Applications of Machine Learning, Computational Logic, Ethics of AI, Foundations of Machine Learning, Knowledge Representation and Reasoning, and Probabilistic Modelling; and has two emerging research groups on Swarm Intelligence and Speech Technologies (CAIR, 2023: online). This research-led approach was augmented by [Presidential Commission on the Fourth Industrial Revolution \(PC4IR\)](#) (2020, 2023) report which mooted the establishment of the AI Institute of South Africa (AIISA) and more support for CAIR. Both initiatives are mentioned in the [South African AI National Discussion Document – South Africa's Artificial Intelligence \(AI\) Planning](#). Furthermore, the document outlines the priority focus areas, enablers, and considerations for AI adoption, and provides a basic framework for the development and implementation of AI initiatives. It highlights the importance of multi-sector collaboration and addressing ethical and regulatory considerations. It proposes governance and institutional mechanisms to guide the development of policies and regulations and align South Africa's approach to AI with global norms and standards. It emphasises responsible AI practices

and the need for regulatory frameworks. It points to both AIISA and the establishment of AI Hubs to drive innovation:

- AIISA was established in 2022 in partnership with academic institutions, the University of Johannesburg and Tshwane University of Technology, with the goal of cultivating a national and internationally recognised AI ecosystem that would promote research and technological advancements in the field of AI within Africa. This institute serves as a coordinator, facilitator, and policy-setting organisation for AI initiatives in South Africa. It focuses on driving economic and social policies to advance national interest and global competitiveness (AIISA, 2022: online).
- Development of AI Hubs or catalytical projects aligned with specific sectors which would benefit from AI, such as transport, mining, and farming [*note the absence of the CCIs*]. The AI Hubs would work closely with sector departments at various government levels to effectively use AI as digital tools to advance value chains and mandates in specific sectors. They would develop proof-of-concept solutions and provide real-time data-driven interventions to sector clients.

The creation of AI sandboxes and grants for AI development are also proposed in the document to support research and innovation in the field of AI.

South Africa's AI plan provides a comprehensive overview of the status quo in regard of AI but lacks specific details and actionable steps for implementation. Many experts, especially legal firms (see Michaelson's, Werksman legal responses), have criticised the plan for being "rough" and needing a complete rework (Thorne, 2024: online). The document lacks a comprehensive analysis of the current state of AI in South Africa, a moving target anyway, and does not provide a thorough analysis of the global AI landscape. It mentions the need for AI governance and institutional mechanisms, as well as ethical and regulatory approaches, but does not provide detailed information on the specific activities and timelines for implementing these regulations. The document does lack a clear roadmap and timeline for development and execution. It does not address potential challenges and risks associated with AI adoption, such as data privacy and bias at any length, nor does it consider one of the primary industries impacted by the supercharged deployment of AI: the CCIs. It mentions the importance of collaboration with academia and industry but does not provide concrete strategies. It suggests the incorporation of AI, Big Data, and IoT into governance structures, but does not provide specific steps or timelines for achieving this, nor guardrails for their usage in public or by government. Therefore, it is unclear from the document when AI standards regulation will be implemented and what specific activities will be undertaken to achieve this goal. Overall, the discussion document lacks depth, specificity, and actionable recommendations and does not address the impact on IP and copyright industries such as the creative sector. As a result, there is still a policy and legislative gap in South Africa, home to thriving cultural and creative industries; and sizeable film, television, animation, design, publishing, photography and art sectors – which all stand to be impacted significantly in the AI era. It is essential that an urgent national vision for the AI era and associated policy frameworks are established, and ones that take due cognisance of the impact on creative work and workers.

In the next sections (Section 4 and 5) of this report, the authors explore the impact of AI on the CCIs, and creative work and workers, amplifying their voices directly and interrogating the opportunities, challenges, tensions and experiences emanating directly from creatives workers themselves. We outline the results of the dipstick survey, and the sentiments expressed therein. We also synthesise the inputs from the CCIs from both the survey and workshop and introduce case study and interview information to ground the analysis. This is followed by a set of policy recommendations and concluding thoughts.

4 Analysis: Research Findings

This section presents the findings of the South African Cultural Observatory’s primary research on the topic and hypotheses, including a dipstick survey, insights from interviews and inputs from a National Workshop. It is followed by a section analysing the results and tensions evident from the research. The research shows that AI uptake in South Africa is on the rise in the CCIs. Creative workers, companies, civil and non-governmental organisations, arts and culture organisations and researchers are starting to use AI or generative AI across their process and operations. A few (14%) of those surveyed are “scared” about AI’s emergence. But mostly there is excitement and positivity. Others (29% of those surveyed) simply have not yet engaged with the tools, or are just at the beginning of their AI integration journey. For those who are using AI, 52% think it has helped their creative process or work, or are “somewhere in the middle” (31.8%) regarding its impact on their creative workflow. As a result, the sentiments toward AI, for now, lean toward the experimental, curious, enthusiastic and eager to put to use. This is not to say these perceptions will remain the same as AI tooling and deployment rolls out across platforms, and in existing and new applications.

Yet, even amid enthusiasm, there is an overwhelming sense that without regulation, policy and protections in place, AI cannot be wholly adopted without caution. Many creative workers (89.6%) surveyed argue that they are concerned about intellectual property and copyright infringements, plagiarism, diminished remuneration, the emergence of AI “junk” or a “zombie internet” (Ryan-Mosley, 2023; Hern & Milmo, 2024), and its conflict with authentic and factual content and creative works, and fair use. There is also divergence on the question of whether AI will replace human creativity in the CCIs. The following section outlines the results of responses to 20 dipstick/sentiment survey questions, put forward in a survey between October 2023 and March 2024. It is followed by a section reporting back on the inputs from expert speakers and attendees at a National Workshop hosted by DSAC, the SACO, GIZ/BMZ and Fak’ugesi Digital Festival in March 2024.

4.1 Survey findings

The below findings section discusses the findings of a 6-month long survey that was conducted by the SACO. The survey represents a sentiment dipstick of creative workers to better understand their responses to, feelings towards, and uptake of artificial intelligence in their daily work. A total of 157 respondents completed the questionnaire (with 330 starts and over 700 survey views). The survey asked both qualitative and quantitative questions. The results of the quantitative responses are mapped below, alongside a summative analysis of the qualitative responses. Qualitative responses are also captured throughout this report through various quotes and “voices”, and mapped in detail in the next section on a “time of tensions”. In these the views of the respondents are articulated into arguments around the emerging trends and tensions that are arising in an algorithmic age.

Of those surveyed, most respondents identified as working in the following sectors (sub-domains of the UNESCO FSC): film and video (11%); music and audio production, performing arts, education and training and research and development sectors (9%); arts and crafts (8%); design (7%); and advertising (6%), with a lower percentage coming from electronic publishing (5%), television (4%), heritage (3%) sectors; radio, fashion, museum and libraries sectors (2%); and the sport and architecture sectors (1%). Together the film, video and television industry workers were the most responsive to the survey, totalling 15% of all responses. This is congruent with the significant technological developments in this segment of the sector in relation to the integration of AI into many existing pieces of software for editing moving image content and creating content. A prime example is advancements made within the Adobe Creative Cloud and its Photoshop, After

Effects, Illustrator, Premier Pro, Stock, Animate and Firefly tools. Film, television and animation production have many repetitive steps embedded in their processes, and thus an inclination towards automatable processes. This makes them a prime target for AI improvements. However, some parts of the value chain, for now, cannot be automated, especially the IP and story development elements. Some respondents have suggested that these should thus become the focus area for human creativity inputs.

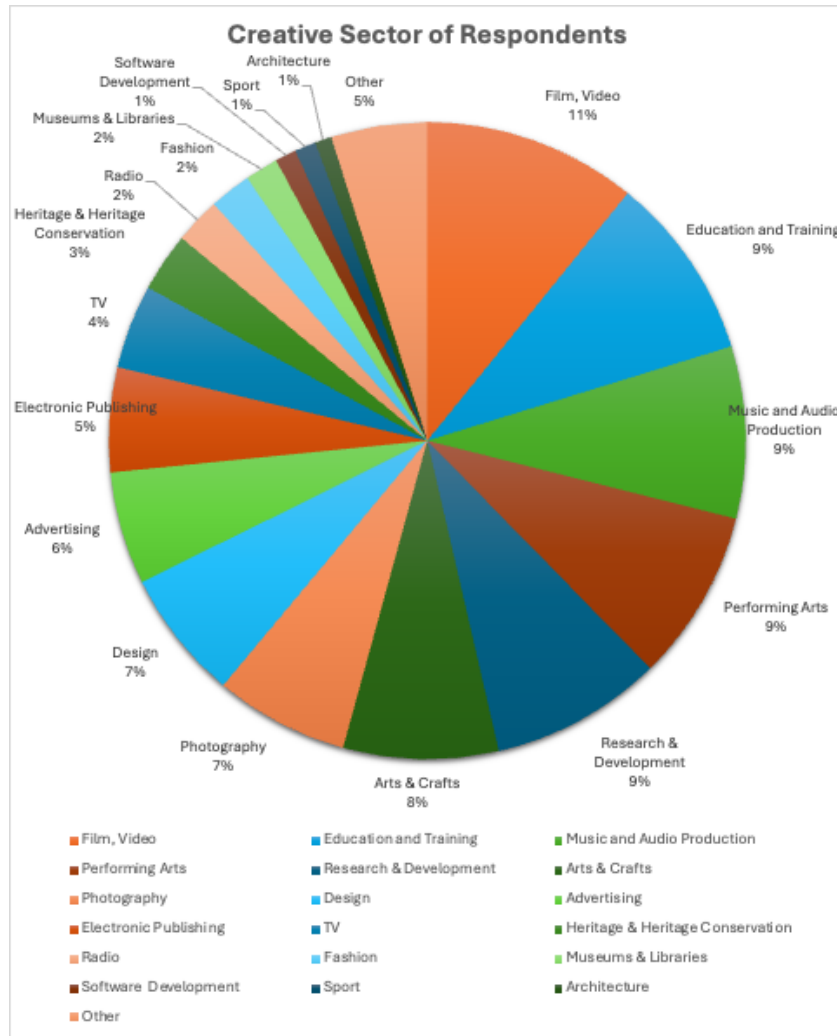


Figure 10: Survey respondents' self-identified location in the cultural or creative industries, SACO 2024

Compared against the UNESCO FSC domains, most of the respondents (31%) came from the audio-visual and interactive media domain; followed by almost equal proportions of responses coming from the design and creative services domain and visual arts and crafts domain (about 14%). Performance and celebration, education and training and research and development (approximately 8% from each domain). This indicates that the audio-visual and interactive media, design and creative services, and visual arts and crafts domains seem to be most impacted by the arrival of AI tools and software. However, it is important to note that, for example, the visual arts and crafts domain is vast. Visual art production may be fundamentally more vulnerable to AI disruption in the digital reproduction of that art, than that of the craft industry which produces physical goods. Nevertheless, both may be affected by cultural misappropriation and bias embedded within AI systems. The audio-visual and interactive media domain disruption is noteworthy; and the responses from the industry indicate their fear and excitement as the AI era

evolved. For other domains, such as education and training; and research and development, the impact of AI is evident in major disruptions across these global sectors. It is important to consider that there is a direct and specific impact within cultural domains and CCIs; and across them, as cross-cutting issues (for example, IP protection, copyright, bias, job displacement, automation), merge and amplify.

UNESCO FRAMEWORK FOR CULTURAL STATISTICS: CULTURAL DOMAINS					
A. Cultural and natural heritage	B. Performance and celebration	C. Visual arts and crafts	D. Books and press	E. Audio-visual and interactive media	F. Design and creative services
5%	8%	14%	5%	31%	14.30%
Underpinning 6 primary Cultural Domains					
Education and training			8.90%		
Research and development			8.10%		
Other			4.50%		

In relation to AI use in daily work, a total of 70.7% of the respondents also said they have actively used AI in their creative work processes.



Have you personally used AI tools or software in **your creative work or process**

157 out of 157 answered

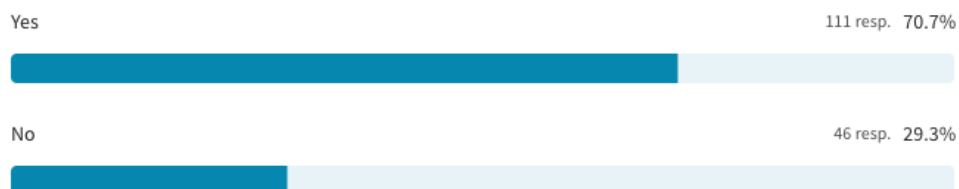


Figure 11: Summary of yes/no response rates by survey respondents to SACO survey question, “Have you personally used AI tools or software in your creative work or process”, SACO 2024

Of those who are using AI, 52.9% said it had helped their process and 31.8% said it had somewhat helped them. 5.7% said it had hindered their process. When asked whether AI had helped or hindered them or somewhere in the middle, the responses revealed a diverse range of perspectives and experiences.

Has AI or machine learning helped or hindered your **creative workflow** or somewhere inbetween?

157 out of 157 answered

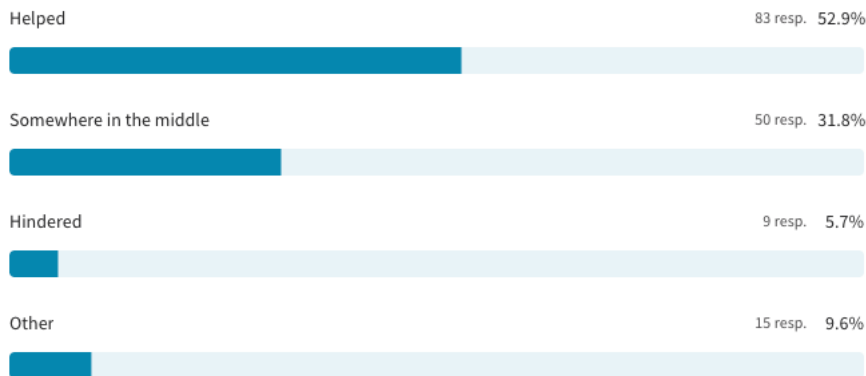


Figure 12: Survey respondents' response rate to question of whether AI has helped, hindered or somehow impacted creative workflows, SACO 2024.

When probed as to why they believe the AI has either helped or hindered them, some participants expressed enthusiasm for the ways in which AI has enhanced their creative processes, others highlighted concerns about its limitations and potential negative consequences. Many participants acknowledge the positive role of AI in augmenting their creative endeavours. They cited examples such as generating storylines, brainstorming blog topics, and creating rough drafts of content. AI tools like ChatGPT were praised for their ability to accelerate idea generation and provide early insights. A recurring theme is the efficiency and speed that AI brings to various tasks, such as research, content generation, and language translation. Participants noted that AI technologies save time and streamline workflows, allowing them to focus on higher-level creative activities.

However, not all responses were unequivocally positive. Some participants expressed ambivalence or scepticism about the impact of AI on creativity. Concerns include overreliance on AI, loss of human touch in design, and potential copyright infringement issues associated with AI-generated content. Ethical considerations also emerged as a significant concern, particularly regarding issues of copyright infringement and data privacy. Several participants highlighted the learning curve associated with AI tools and the need to develop skills to effectively utilise them. While some embrace AI as a valuable tool for innovation and problem-solving, others express frustration with the complexities of AI technology.

Overall, the responses reflect a nuanced understanding of the opportunities and challenges posed by AI in the CCIs. While AI holds promise for enhancing creativity and productivity, participants emphasised the importance of ethical considerations, skills development and training or re-skilling, and maintaining a balance between human ingenuity and technological innovation. Even given the divergent feelings and thoughts toward AI most creatives are positive and excited about AI, with 67.9% of the respondents indicating their positivity. A total of 17.3% said they were indifferent about AI's emergence and 14.7% responded that they were "scared" about AI and machine learning in general.

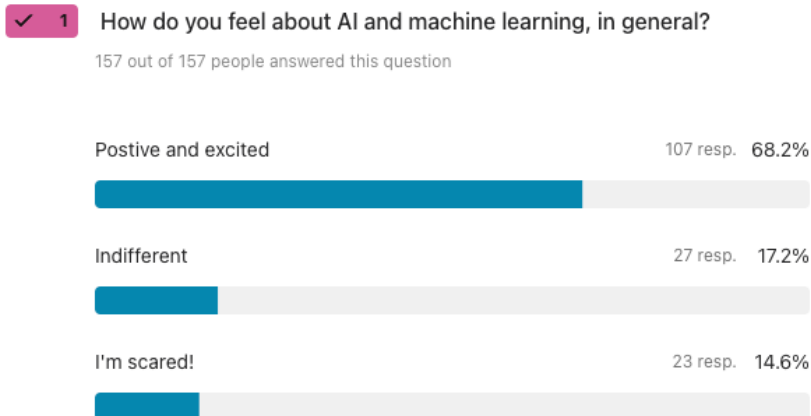


Figure 13: SACO survey respondents' sentiment toward AI and machine learning in general, SACO 2024

The positivity around AI stems from several factors. These include the automation of “mundane, boring and administrative tasks”, freeing up space for more strategic and creative work, respondents said. It also helps with prototyping and generating ideas. Speed is another significant benefit that is generating excitement across the CCIs. Many of the respondents see AI as a direct tool to improve workflows, research, come up with ideas, and create efficiencies, freeing up time and augmenting creativity. There is positivity around the potential of human-AI collaboration and the possibilities around it. Thematically analysed the respondents who had positive feelings toward AI had so because:

- of its potential to make work and life easier, simplify tasks, and provide convenience.
- it could open new paradigms of possibilities, offering innovative tools, and enhancing productivity and efficiency.
- there's a sense of excitement about the transformative potential of AI, its role in revolutionising industries, and its capacity for innovation.
- of an optimism around AI's ability to improve processes, enhance creativity, and drive progress in various fields.

Those respondents with neutral feeling toward AI often recognise both its advantages and its potential risks. Alternatively, their neutrality stems from a lack of familiarity or direct experience with AI, leading to uncertainty about its impact. There are a variety of reasons some respondents have a sense of fear for AI advancements. These fears are associated with job displacement, lack of regulation, ethical considerations, and potential misuse of AI – particularly in the absence of clear policies and safeguards in South Africa and for African creative workers. There is also significant apprehension about over-reliance on AI, loss of human control, and the potential for AI to manipulate or control aspects of society. A few respondents expressed existential fears about the future implications of AI, including its impact on humanity, society, and the environment.

Three other key themes emerged from the qualitative responses.

- Many respondents see AI as a valuable tool for enhancing creativity, exploring new artistic avenues, and facilitating artistic processes.
- Some emphasise AI's potential to increase access to skills development and information, reduce barriers to entry, and promote inclusivity in various sectors.

- Several respondents highlighted the need for robust regulations, ethical guidelines, and policies to govern AI development and deployment, particularly to protect intellectual property and human rights.

Overall, the responses reflect a negative-to-positive continuum of views about AI, but largely sentiment is tilted in favour of AI. Feelings range from excitement and optimism to apprehension and fear, with a recognition of the need for responsible development, regulation, and ethical considerations to harness AI's positive potential.

4.1.1 Perceptions of AI in creative processes

In terms of familiarity with and overall attitude toward AI in creative processes, around half of the respondents were quite familiar (49.3%) to very familiar (15.9%) with AI in creative processes; and neutral (33.8%) to positive (28%) in attitude. Few creatives surveyed said AI had affected them negatively. A total of 80.3% said it hadn't affected them at all, while 19.7% said it *had* impacted them negatively. Actual negative impacts were conflated in some instances with fears, but included concerns around bias, verifiability, factualness, reference-ability and the lack of source/ reference material in some generative AI tools (for example ChatGPT). Other concerns focused on quality of the output and the generic nature of such impacting creativity. There was a sense from respondents that AI could threaten job security and create workplace displacements, especially in the copyright industries. Several respondents mentioned the notion that AI was a digital “blackbox”³², that there are significant risks associated with it, such as the creation of deep fakes and misinformation. The possibility that over reliance and dependency on AI tools could lead to creative laziness, was raised as a concern.

Table 4: Survey Results – South African creative workers familiarity, attitudes, and concerns regarding AI integration

Familiarity with AI in creative processes	Overall attitude toward AI in creative processes	Negative impact of AI on creative work	Specific Concerns Regarding AI
Quite familiar (49.3%)	Neutral (33.8%)	Hasn't affected (80.3%)	Bias, verifiability, factualness, lack of source/reference material, generic nature impacting creativity, job security threat,
Very familiar (15.9%)	Positive (28%)	Negatively impacted (19.7%)	workplace displacement, digital “blackbox” deep fakes, misinformation, creative laziness

It is also interesting to note which GenAI, AI, or specific tools and software, the respondents were using. The top three AI tools/software used were: ChatGPT (41%); Canva (25%); and the Adobe Suite (15%), with a total of 27 other key pieces of software and tools also identified, specific to the different industries within the CCIs. This list is by no means exhaustive and represents software and tools available as of March 2024.

³² A complex system or device whose internal workings are hidden or not readily understood (Oxford Dictionary).

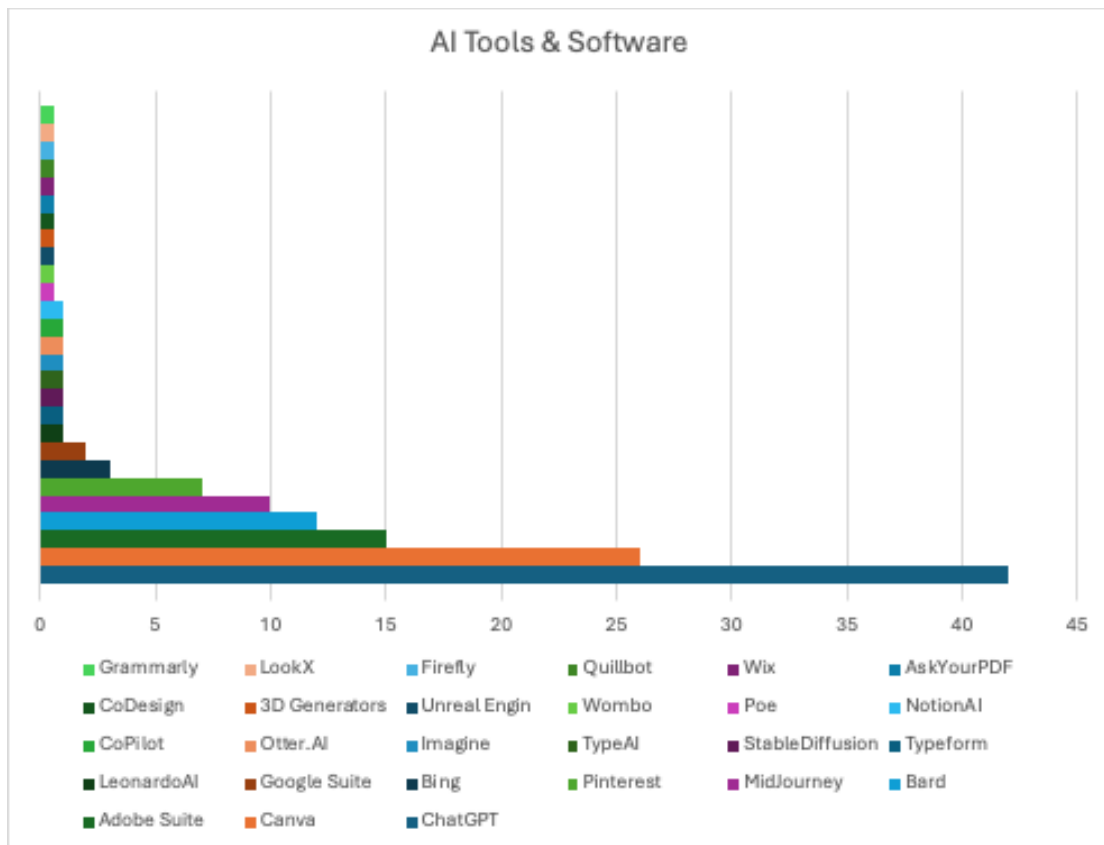


Figure 14: Types of AI tools and software used by survey respondents, SACO, 2024

The responses garnered in relation to the question, “AI is here, but how do you really feel about it in relation to your work?” reflect a complex range of attitudes toward AI in relation to work. These encompass both optimism about its potential benefits and concerns about its ethical, social, and economic implications. Summarised, the respondents' inputs covered 10 key areas:

- **Opportunities and potential disruption:** Many respondents see AI as offering numerous opportunities for efficiency and productivity in their work. However, there is also recognition of the potential for disruption, akin to the impact of technologies such as Blockchain and Bitcoin, and concerns about its uncontrollable nature.
- **Assistance and competition:** AI is viewed as a tool that can assist in various aspects of work, such as research, brainstorming, and automation of tedious tasks. Some expressed concerns about AI becoming a competitor in creative fields or perpetuating biases.
- **Ethical and IP concerns:** There is a widespread awareness of ethical and intellectual property concerns surrounding AI in the creative industries. Many emphasised the importance of regulations and guidelines to address these issues.
- **Enhancing creativity vs. replacement:** While some believe AI can enhance their creative process and productivity, others are wary of its potential to replace human creativity or specific job roles. The balance between human ingenuity and AI assistance is highlighted as crucial.
- **Learning and adaptation:** Many respondents expressed a willingness to learn more about AI and its implications for their work. There's an acknowledgment of the need to adapt to its presence across the CCIs.

- **Mixed feelings:** Overall, there's a mix of optimism and scepticism regarding AI's impact on work. Some see it as a valuable tool for efficiency and innovation, while others express concerns about job displacement and loss of human creativity.
- **Regulation and control:** The importance of regulations, transparency, and informed consent regarding AI usage was emphasised by several respondents, particularly in fields where AI-generated content could infringe on rights or perpetuate biases.
- **Concerns and fear:** Some expressed fear or apprehension about the potential negative consequences of AI, such as job loss, erosion of human creativity, or loss of control over technology.
- **Collaboration and partnership:** Several respondents view AI as a creative partner rather than a replacement for human ingenuity. They see it as a tool to complement and enhance their work rather than supplant it entirely.
- **Speed, efficiency, and automation:** Many highlighted the benefits of AI in terms of speed, efficiency, and automation, particularly in streamlining tasks and reducing manual labour.

When respondents were asked about their experiences using AI in creative work, including any challenges or drawbacks encountered, several recurring themes and concerns emerged. The following seven were particularly prominent:

- **Ethical and bias concerns:** Respondents expressed apprehension about the ethical implications of AI, including issues of bias, particularly concerning race and gender. There are concerns about the capitalist and neoliberalism-centred processes of AI, the ownership structure of Big Tech, and its potential to perpetuate inequalities.
- **Quality and accuracy:** Many respondents highlighted limitations in the accuracy and quality of AI-generated content. They noted errors, inaccuracies, and the blandness of AI-generated text. There were concerns about hallucinations, omissions, bias, and mistakes in image generation.
- **Learning curve and specificity:** Respondents acknowledged the need for specific instructions and a learning curve in effectively using AI tools. They mentioned the challenge of prompting AI correctly to obtain desired results, as well as the limitations of AI 'thinking' and results.
- **Cost and accessibility:** Some respondents mentioned the expenses associated with advanced AI tools and software. There are concerns about the digital divide, accessibility, particularly for those who cannot afford paid subscriptions or lack access to high-speed internet.
- **Human intervention and accountability:** Respondents emphasised the importance of human intervention or humans-in-the-loop in AI-generated content and the need for accountability. They mentioned the need to correct and verify information generated by AI and conveyed scepticism about relying solely on AI for creative output.
- **Cultural preservation:** Some respondents indicated concerns about the preservation of culture and human creativity in the face of AI advancements. They advocated for responsible AI learning and output to protect cultural heritage, language and rights.
- **Technical limitations:** Respondents highlighted technical limitations such as errors, lack of customisation, and difficulty in understanding relationships between objects in visual outputs from AI.

3 How familiar are you with the concept of AI in creative processes specifically? Avg. 3.5

157 out of 157 people answered this question

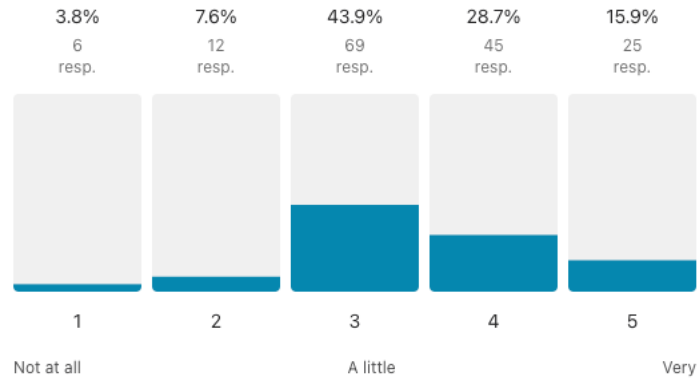


Figure 15: SACO survey respondents' familiarity of AI tools and software in the creative process, SACO 2024

4 Rate your overall attitude towards the use of AI in creative processes? Avg. 3.6

157 out of 157 people answered this question

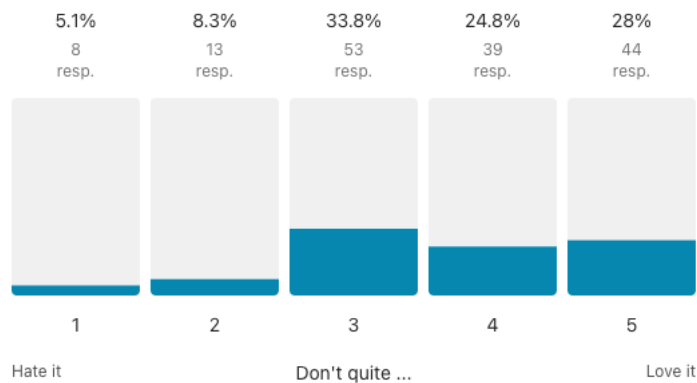


Figure 16: SACO survey respondents' attitude towards AI use in the creative process, SACO 2024

4.1.2 Perceptions in relation to policy, regulation and legislation

In terms of the policy and regulatory debates, a significant majority of the respondents said they believe policy to regulate AI in the CCI is needed. A total of 89.5% (138 respondents) agreed that policy was needed to regulate AI, and 10.5% (16 respondents) said it was not. Some commented that, “yes,” it was needed, “but it will be pretty much impossible to police, which is quite depressing”. Another said: “Fair use is useful for users of creative work, and for those technology companies who benefit from assuming that their version of ‘progress’ is the only version. Fair use in South Africa will be a force of destruction for the creative industries, and therefore ultimately result in a severely negative impact for users and technology companies.”

The respondents expressed anxieties about the lack of control over owned creative works. *“I am concerned. All copyrighted material must be respected and only used once an agreement and permission has been granted by owner(s). If Big Tech companies don't respect and follow the copyright laws they will influence the general public to also not respect copyright laws leading to more cases of infringements,”* said one respondent. Another respondent raised the issue of policy for IP protection and to guard against plagiarism and copyright infringement. Says a respondent:

Generating content with AI that doesn't clearly define its sources is problematic with regards to plagiarism and limits the use of AI generated content. It also creates a question around copyright and IP – who owns AI generated content? How does IP get assigned for the person who fed the request into AI vs the AI tool/owner? I'm not as clued up on IP, remuneration and fair use as I should be but there are a vast number of issues here that need to be considered when it comes to the usage of AI.

A final response summarises the overall sentiment: *“unregulated generative AI has the clear potential to severely damage the creative industries and the export of cultural expressions.”*

4.1.3 Perceptions in relation to possible replacement of human creativity

Respondents were also asked whether they believed AI had the potential to replace human creativity in the creative sector. The overall sentiment on AI's ability to substitute human creativity is mixed, an analysis of the qualitative responses showed. For example, one person said: *“Yes, but only those that aren't exceptional. AI may not be evolved enough to think entirely outside the box and reinvent the wheel, the same way that a human can”*. Another responded: *“No. AI is data and statistics driven, whereas human creativity is more spontaneous and varied, meaning that even as AI develops, humans with creative talent will still be able to create unique works that out do AI”*. Another said: *“No I do not believe that. AI does not have the ability to create genuine inspiration which essentially is from emotion”*. A balanced viewpoint indicates the upsides and downsides of AI's interaction with the realm of creativity:

I do think there is a level to which it could replace human creativity which is a bit concerning - I've just seen a video about the advances to AI image and video generation which is astonishing. But at the same time human creativity is needed to feed AI so I believe there is also an element of excitement with regards to potential for new career avenues and upskilling opportunities; and also for AI to enhance what creatives are already doing and make production processes quicker, easier and cheaper for them.

Thematically the responses covered various topics and fears, such as:

- **Potential for replacement:** Some respondents expressed concern that AI could replace human creativity, particularly in tasks where AI can generate content quickly and efficiently. One respondent stated, *“Yes, it's already happening. Graphic designers are replaced by AI image generating apps.”* Concerns were raised about the potential loss of jobs and the devaluation of human creativity in the face of AI advancements. Another respondent noted, *“Yes, but some sectors in the industry will be affected, film and music will have some pains but there must be regulations in place.”*
- **AI as a tool, not a replacement:** Many respondents stressed that AI should be viewed as a tool to enhance creativity rather than a complete replacement for human ingenuity. One respondent highlighted, *“No, AI is programmed, while human creativity is in endless supply. It should be used to enhance human creativity not to replace [it]”*. They highlighted the unique qualities of human creativity, such as emotion, depth, and authenticity, that AI cannot replicate. As one respondent put it, *“Humans understand*

each other the best and within creativity it is our human spirit that is needed to create emotional connections and clear communication.”

- **Augmentation and assistance:** Several respondents mentioned that AI could augment and assist human creativity rather than entirely replacing it, but there is great importance placed on humans remaining the arbiters in the creative process. One respondent stated, *“Only in the hands of un-creative, unoriginal ‘creators’. The human drive to express creativity is too strong to be replaced by machine-driven ‘creativity’.”*
- **Concerns about misuse and regulation:** Some respondents expressed concerns about the potential misuse of AI in the creative sector, particularly in terms of copyright infringement and the proliferation of fake content. One respondent highlighted, *“AI may not be evolved enough to think entirely outside the box and reinvent the wheel, the same way that a human can”*. There were calls for regulations and policies to ensure that AI is used responsibly and ethically in creative endeavours. Another respondent noted, *“If there are policies everything will go well, as we will know if work is original, or machine created.”*
- **Uncertainty and outlook:** Many respondents acknowledged the uncertainty surrounding the future impact of AI on human creativity. While some believed that AI could eventually replace certain aspects of creativity, others remained sceptical or hopeful about the resilience of human ingenuity.

Overall, while there is recognition of AI's capabilities in generating content and streamlining processes, there is also a strong sentiment that human creativity possesses unique qualities that cannot be replicated by AI. The consensus leans towards viewing AI as a tool that can complement and enhance human creativity rather than completely supplant it.

4.2 Café AI National Dialogue and Workshop Findings

The SACO worked collaboratively with Fak’ugesi African Digital Innovation Festival, supported by the Department of Sport, Arts and Culture and GIZ (the Deutsche Gesellschaft für Internationale Zusammenarbeit) to host “Cafe AI” a national dialogue and workshop on AI and its impact on the creative work and workers on 14 March 2024. The event was hosted as a hybrid event, on location in Johannesburg at the Tshimologong Precinct and online through a YouTube stream, a hybrid viewing platform called SodaWorld, and a closed online policy discussion session hosted on Zoom. Over the day-long discussions the audience heard inputs from 17 domain experts on the potential impact of AI on the CCIs under six thematic discussions, including:

- An opening debate on the motion – “Artificial Intelligence: Rushed revolution or the holy grail of a creative future?”
- Tackling copyright, IP, ownership & mitigating against bias in the AI era
- How AI impacts creative work and daily creative production
- Jobs displacement, skills development, and keeping pace with AI.
- How can we turn a disadvantage into an advantage: Local value made global, IP protected?
- Policy discussion: Why policy matters right now – envisaging the future.

The themes and issues raised during the engagements link neatly with those raised in the survey.

4.2.1 Debate findings: “AI: Rushed revolution or the holy grail of a creative future?”

A debate was held on the motion “Artificial intelligence: Rushed revolution or the holy grail of a creative future” in which tensions between AI’s transformative possibilities and AI’s risks were

discussed and deliberated. The debate also brought up context specific challenges relating to developed nations and African perceptions and realities. The following themes emerged from the debate:

- **Potential and inevitability of AI:** AI is seen as a powerful ally and tool that can benefit humanity. AI supporters proposed that AI is an inevitable revolution that must be fully embraced. For example, Nosipho Maketo-Van den Bragt, of CEO Chocolate Tribe made this argument for AI:
 - *“AI is not a rushed revolution. It is a holy grail in that it allows humans to do the things we have always wanted to do. AI is a very powerful ally. It is a tool. We must remove the emotive conversation so we can truly see what AI is capable of. The cat is out of the bag. We cannot close Pandora’s box. What do we do as humans when something is already happening? We adapt. A data monopoly adds a responsibility for the community. We cannot absent ourselves from putting data into these systems. It’s about us getting into that space and reflecting. If we are not inputting data, we are outside of that system. We cannot treat it like the ‘other’, [AI] is a reflection of who we are. We are making this plane as we fly. There is no going back. The way forward is activism and regulation.”*
- **Democratisation of tasks:** AI can democratise tasks and remove mundane ones, allowing humans to focus on creative endeavours. Vulane Mthembu, from Goethe Institute’s Game Box argued:
 - *“AI can help facilitate tasks and even democratise tasks that were gatekept by corporations before. E/acs or ‘Effective Accelerationists’ say we need to embrace AI fully and emphasise optimism while minimizing fear. Embracing this tech [AI] means we must ensure that systems around both software and hardware need to be developed to match the rise of AI. Right now, AI is not at its full capacity - because of legacy tech. [And so] here are opportunities: Nano tech, thermodynamics, quantum computing. The development of these technologies will be propelled which, as a result, will help other industries.*
- **Job losses vs efficiency and productivity:** While job losses may occur, Universal Basic Income (UBI) adoption and income-generating opportunities through AI can mitigate these effects, the proponents argued. Adding that AI can improve efficiency and productivity, particularly for small businesses, by automating repetitive tasks. *“The art of animation and VFX is a lot of artists doing repetitive tasks – for example rotoscoping, cutting out live shots frame by frame. AI is not a rushed revolution. It is a holy grail in that it allows humans to do the things we have always wanted to do by giving us time back. There will be [new] jobs that will focus on us making [AI] a more ethical space,”* said Ms. Maketo-Van den Bragt.
- **Awareness of issues:** Supporters recognised the issues regarding IP and jobs but advocate for embracing necessary change. *“Progress is impossible without change. It’s important that we see this as a moment to change. We have to change before we have to change,”* added Ms. Maketo-Van den Bragt.
- **Government policy and development:** There is a need for government policy to regulate AI development and usage. *“We have researchers working on the AI issue in Africa. We have African LLMs and we have data labs (Masakane, Lelapa). We are there, we are in the space, and we need to highlight this fact and better know the Africa story of*

AI. But government will need to have policy and investment to help people [and companies] accelerate what they are already doing,” added Mr. Mthembu.

In a powerful rebuttal, against the motion, the following themes emerged:

- **Rushed revolution:** Critics argued that the AI revolution is rushed and lacks necessary infrastructure, especially in Africa, which is already at a disadvantage to more developed nations. Advanced countries have the advantage of both digital/AI literacy and infrastructure. Dr. Karabo Maiyane, Researcher/ Lecturer, Nelson Mandela University said:
 - *“It is very clear that AI is a rushed revolution. Great opportunities need to come with the necessary infrastructure in place. We know that we do not have that infrastructure. We do not have the computing power. And the types of jobs that are created [by AI] are not equivalent to the ones they take away. You end up paying the same companies like Adobe, who have opaque models that protect the very same data you give it; disallowing you to re-profit from the data”.*
- **Emerging data colonialism:** Citing the tension between open-source data and proprietary data, those against the motion underscored the uni-directional flows of data and software and its impact on African users. Eduardo Cachucho, Creative Director: Fak’ugesi African Digital Innovation said:
 - *“We are really on the precipice of a new data colonialism. I am against huge multi-national companies who are already valued at trillions making more money from African culture and heritage – and for them to keep feeding us back that data and charging us for it. In the proprietary model, it’s a backbox – we don’t know the constituency of the data, how the models have been trained and how the training affects the outputs. It’s like a pandora’s box and allows these corporations to keep extracting data from Africa, again. If we do not take a stance, we are just going to be at the end of a new colonialism that is again extracting all the value from Africa and its culture, and we need to put a stop to that, fast”.*
- **Lack of government policy:** There is a lack of government policy to regulate AI in South Africa, leading to concerns about data colonialism and value extraction. Advising on policy directions, Mr. Maiyane said:
 - *“We need to protect the creative industry of South Africa. We need to understand and its age, how young it is, the capacities it needs so that we do not bring in tech that pushes out the very few people we have in the CCIs. We also need to invest in platforms like these [local owned or created LLMs such as Lelapa], to train the necessary practitioners to be able to leverage all such models. If we can do this and so it well, then we can have a conversation about how to leverage it.”*
- **Importance of taking AI seriously and for protection and investment:** AI is moving rapidly, and it's crucial to address issues such as data ownership and discrimination. The detractors said there is a need for a royalty model for African-related AI and investment in AI development. Mr. Cachucho added:
 - *“On commercial side, we need to develop a strong royalty model for anything related to African culture. The way AI works with its tokenisation it's very easy to know when African cultural is actioned within a prompt. We should set up a strong royalty system whenever African culture is actioned in a prompt, so the*

money [flows] to Africa. It's important that we do not start a second data colonialism and extract value from Africa for these companies to grow even bigger. The model is digital so we can track the usage. Government must invest in these open-source models. We cannot let this data be sold back”.

- **Risk of discrimination:** AI systems can perpetuate discrimination if not regulated properly. *“Data is the source of AI. If we don't take care of the data and bring in the data in the way that it should there is no way we are going to benefit from it. Because the capacity of AI to do what it does, is to discriminate specific data so it can optimize function. To do that, it uses available data that is there. If it is not there, it cannot do it. So, if you are a scriptwriter in SA writing in Xhosa. There is no way you will benefit from an LLM. There is no data training the AI in a framework that is trained in IsiXhosa. You're not benefiting. So, an English scriptwriter will make more money than you because they will make more scripts,”* added Mr. Maiyane.
- **Power imbalance:** There is chasm in AI development, with local models often controlled by multinational organisations. *“There is an enormous power imbalance between what Big Tech has and what we have [as Africa]. African governments must work on open-source models and work together. We cannot feed more power and data to the multi-national companies. Need to align with other Blocs like BRICS and EU. Must not be left behind,”* added Mr. Cachucho. Agreeing, Mr. Maiyane added: *“For example LelapaAI [a South Africa LLM] data is proprietary owned by Google because they are hosted by Google. It's always good to rush and benefits to be there first. We will donate our talent like we have done in the past. People are going to make money and it will not be us. We have donated our data. You don't own it because it's hosted on [Big Tech's] platforms.”*
- **Need for a fundamental understanding of what AI is and what it isn't:** The team debating against the motion assessed that comprehensive research, training and conversation platforms are needed to improve people's understanding of what AI is, so it can be used to the benefit, not extraction of all. *“AI can only do certain things. It can only do what it is programmed to do. A vacuum cleaner that is automated cannot make eggs. The same is for AI,”* Mr. Maiyane concluded.

The debate on AI's potential as a “rushed revolution” or “holy grail” of a creative future highlights the tension between its transformative possibilities and the risks it poses, especially for developing nations like those in Africa. It showcased, that, for good or bad, AI is effectively what people ‘feed’ it; and there are fundamental questions about power, access and who gains from AI. There is a also clear juxtaposition between speed and caution. While some see AI as an inevitable ally and tool for humanity's advancement, others see those who risk being left behind due to readiness challenges – especially in the infrastructure, training and skills, and policy and protections dimensions. While AI could be a means to liberate humans from mundane tasks and fuel creativity, this is hampered by potential job losses and the subsequent economic ramifications. Still, “AI is here”, as mentioned by Ms. Maketo-Van den Bragt – and because it is, there is an urgent need to generate the political will and collaboration to manage its evolution. Concerns about data colonialism, discrimination, and the power imbalance between multinational corporations and African nations and creative Africans are yet to be addressed by policy, activism or social movements. Strong government and multilateral policies to regulate AI, protect African culture, and ensure equitable benefits are needed at national and regional levels.

The debate underscored the urgent need for African nations to invest in local AI development, training and infrastructure; prioritise open-source models, and establish robust policies to protect data ownership, promote ethical AI use, and ensure the benefits of AI technology flow back to the continent. “We cannot put the genie back in the bottle. But we can prepare” was the advice of Mr. Mthembu. Neglecting these measures threatens to perpetuate existing power imbalances and widens the gap between developed nations and Africa in the AI era. A recording of the debate is accessible on [YouTube](#).

Figure 17: A recording of the debate is available on [YouTube](#)



Source: Fak'ugesi/SACO/ DSAC – <https://www.youtube.com/watch?v=PYxatCsvgA>

4.2.2 Café AI: General discussion and workshop findings

Following the Café AI debate was a series of “scene-setting” keynotes given by experts and representatives from the creative and cultural industries. These introductory sessions established the basis for workshop/focus group sessions that followed. The thematic workshops were then moderated and led by the experts and CCI representatives. The four thematic areas covered were:

- **Intellectual property and compensation:** German IP and copyright lawyer Dr. Oliver Sherenberg raised questions about the origin of AI-generated content and whether creators should receive compensation for their contributions. He also explored the debate of how much human input was needed for an AI-human collaborative work to be deemed copyrightable. Dr. Sherenberg emphasised that the AI model works from two perspectives – that of the developer (feeder of the machine with data) and that of the user (extracts or triggers from the machine). *“How does the machine get the information and how will it process it? The assumption is that there is a model which has been trained on someone else’s creativity.”* From an IP and legal perspective, he underscored two emerging ethical areas for examination that result from an analysis of how the models work:
 - 1) *“Is it OK to use the creative resources that are publicly available to feed a machine that then blends, deconstructs, interprets everything, to generate something new? The creative industries have a pretty clear opinion on this.”*

While in the EU it is OK for the model providers to indeed use copyrightable material without the model having to ask for permission. In other jurisdictions it is not that clear” he said citing fair use and transformative use; and 2) the question creative people are asking, is “if we cannot do anything as creative people, can we at least get compensation? So, if we cannot avoid that our work is being used to train AI, can we at least ask for money?”.

- He said his position was clear: *“There has to be some sort of compensation for those who deliver the input that makes the model train and work.”* The other interesting legal debate in the copyright sector is the question of who owns the rights to human-AI generated creative outputs (from work using tools such as MidJourney or Riverbend, or ChatGPT) because of the monetisation or commercial implications. *“It is totally unclear how much human input is required for the output to be deemed a ‘human;”* he said. Given the uncertainties about the genesis of data, rights to that data, compensation and copyright protection of AI-generated content and the level of human involvement required to justify it as a human product, there is scope for these to become areas of future legal and policy intervention.
- **Bias in AI and ownership of knowledge:** Douglas Ian Scott from the Wikipedia Foundation highlighted three concerns : 1) the usage of Wikipedia content and data; 2) the importance of human generated knowledge versus the murkiness of a “perpetual [feedback] loop” of AI generated content; and 3) the challenge of bias in AI models; while underscoring the Wikipedia Community's responses to different AI debates around data usage, fact-checking, and copyright. According to Mr. Scott, modern AI models are typically and extensively trained on content from Wikipedia. *“So, the reason why a lot of it reads the way it does, it sort of speaks in this semi-authoritative, neutral tone that has largely been modelled from edits made by Wikipedia editors”.* Wikipedia content is generally heavily weighted compared with other content that AI is trained on, and hence the similarities in tone and feeling. *“The Wikipedia community is okay with this because we are an open community. So long as it adheres to the Creative Commons's licences, that we ourselves subscribe to, we are generally okay with it. A greater concern within the Wikipedia Community is how AI can affect the generation of new knowledge”,* he added. *“The thinking within the Wikipedia Community is that knowledge is fundamentally human, and knowledge has to be generated by people for people”.* However, AI models are imperfect in their production of information. *“AI models still tend to have an ‘hallucination problem’ and makes stuff up on the fly to please the user, and this is particularly true when AI is using AI generated knowledge to produce results, then results can increasingly get very distorted. That is a big reminder why knowledge needs to be human created, human curated. That does not mean AI cannot be used as a tool.”* While AI can assist in generating content, knowledge fundamentally remains human-generated and curated. AI can also, dangerously, reflect biases present in its training data, emphasising the need to challenge personal biases feeding into AI systems. *“AI is a reflection of the world we inhabit. It has got biases interwoven into it and it requires us human beings living in the real human world to change that foundational knowledge so the AI is less biased, and so we are less biased. That is a group effort”.* In terms of acceptable use of AI on Wikipedia – there is debate, but there is growing consensus that it is...
 - *...“ok to start articles, or maybe review articles, but you should never use it to write articles with AI. It does a terrible job of that. AI tends to make facts up, so we always check the facts. On AI images, the Wikipedia community says that AI does not have rights to copyright. AI is just a tool, and tools don't have personality or legal rights like people do, so it is context that is not copyrightable.”*

- **Impact of AI on creative work:** Louise Claassen from Henley Business School discussed the shifting skills set needed in the AI era; the need for creatives to ‘manage the fleet of AI’ at their disposal; the importance of mental preparedness in approaching AI management; and finally, an African approach to excellence in AI usage and creative production. On the changing skills front, she noted:
 - *“GenAI has had a massive impact on productivity in the creative space. But we are slowly observing, or forecasting, a shifting skill or capability in this space. As this GenAI space gets richer and more richly populated I think what we are seeing is the emergence of a new skill, I am going to call it ‘fleet management’. Or AI management. It’s the skill where you need to understand what different AIs are good at and how you manage getting the best out of AI This speaks to the kind of relationships we are developing with AIs. You might call it a partnership, or you might be more comfortable with the idea of interaction simply. It’s that process of understanding that I have a team of AIs and how do I get the best out of different AIs”.*
- This, she says requires an understanding the relationship between humans and AI tools, where a user/human’s mental models can impact the output.
 - *“It’s also useful to think about the capability sets we [humans] are developing in this process. There’s another element to the AI partnership piece that’s really interesting: the psychology, stance or mental model that we bring to our engagement with AI can have a very telling impact on the kind of outputs that we get. If that stance is somewhat at but cynical somewhat weary, you are not going to get particularly great outputs. If on the other side, you are overly optimistic, gushy, and anthropomorphise fiercely, you may get brilliant results, really creative and it can work for you. But the downside could be that you are not as careful, or as finely judgemental of the outputs that you get, you are not as cautious. That balanced approach and that ability to really understand what you have, which of your AIs are able to do what – that’s a higher order skill that really is worthy developing at this point in time.”*
- Still, creativity underpins the process in utilising these tools effectively and developing capabilities to leverage them for creative production. *“That really does speak to discernment and decision-making. A big part of creativity in this space is the ‘use of’. What is it that you do to get the best out of AI? Where are we going as African creators and how can we as creatives create a capability-set that is truly remarkable and lets us stand proud in the way we are able to generate creative content in partnership with the different AIs that are available to us?”.*
- **Youth development and future skills:** Kuben Nair from Harambee Youth Accelerator led the discussion on preparing for the impact of AI on jobs, categorising them into insulated, augmented, disrupted, and new job categories (see Figure . Trends in skilling included the need for creative thinking, analytical thinking, technology literacy, and AI skills. Various initiatives and programs, such as internal skilling by employers, government-funded internship programs, and self-skilling, were highlighted to ensure that no one is left behind in the rapidly evolving job market. He underscored the pressing need to plan for and design for the future.
 - *“What frameworks can help us? By categorising jobs into 4 categories, we can see where interventions are needed. Firstly, insulated jobs, are safe from AI, safe from automation – such as healthcare workers, transport, mining, hairdressers. No one wants to have a hairstyle that’s hallucinated by an AI. But augmented jobs need new skills. A graphic designer of 2020 will need a completely different skills-set in 2023, even though their 2020 job title said graphic designer, what*

they will be doing in the future is unknown. Then there are the disrupted jobs which will be taken by AI: such as telemarketing, admin. Finally, there are the new jobs that may come – we don't know what these will look like, but we do know we need to prepare people”.

- Kuben emphasised that this preparedness required a deeper look at 4 current trends in the skills market:
 - **Skills based hiring:** *“CVs will not cut in the future. Past job titles do not matter. How we assess the skills is the main driver. Today young people are unemployed because they don't have formal job titles to on their CVs, but they do have skills. We need to maximize knowledge that skills are increasingly important. Then we need to listen to what employers are saying. They say the top growing skills of the future are creative thinking, analytical thinking, tech literacy and AI. Knowing this can help us prepare.”*
 - **Employer-led skilling:** *“The sad truth is that employers don't trust what is coming out of the education system. They are seeing that they need to invest big time in skilling their own workforce. What they are doing is on-boarding training, on-the job training, internships and bringing in the future to their workplace. The only thing they are asking for support and incentives from government.”*
 - **Real innovation in the skilling sector:** New skilling models and initiatives are both needed and already evolving. Citing the example of the collaborative initiative (with government), Collective X, Kuben noted that people needed new skilling models that are *“accelerated, cheaper, faster and more inclusive”*. Harambee's Yes for Youth programme meets this need by putting people in internships.
 - **Self-skilling:** Finally, there is democratising of skilling underway in many marketplaces. We can get quality skills ourselves and often for free” he said showing a slide of LinkedIn and other online skills portals. His final message to creative South Africa: *“As creators, innovators and researchers, with novel jobs, you are not just creating art and entertainment, you have such power and imagination to create the jobs of the future for us in South Africa. In disrupted jobs, the people most at risk are young people of South Africa, especially young women. Many at risk of being left behind cannot come to the city, cannot access us online, cannot afford data. We need to include them in building a skilled future.”*

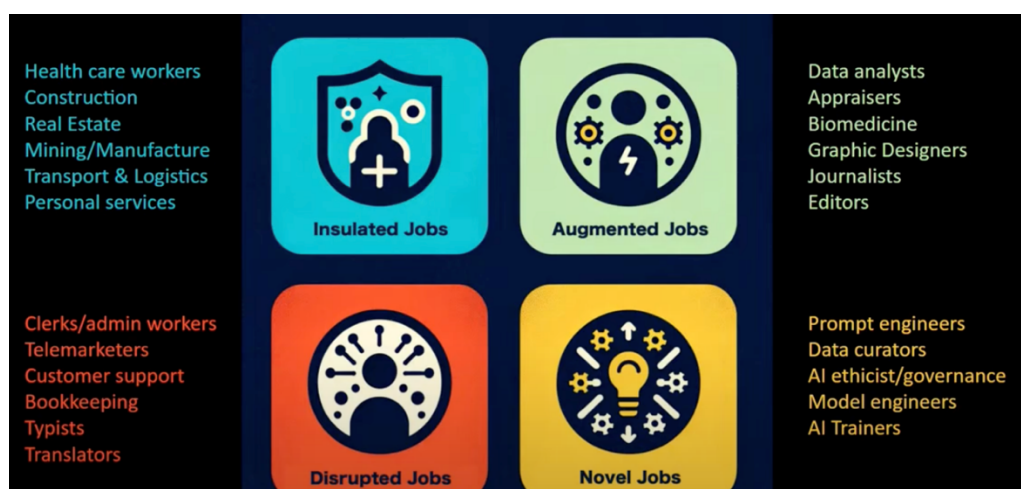


Figure 18: Jobs that will be insulated from AI, augmented and disrupted by it, and new job categories. Source: Nair/Harambee, 2024

Experts at the Café AI set the scene for the workshop segment by raising critical concerns within the four thematic areas and surrounding the use of AI in the cultural and creative industries. These included questions about the ownership and compensation rights for creative works used to train AI models, the potential for bias in AI outputs, and the impact of AI on creative work and skills.

Acknowledging AI as a powerful tool of potential benefit to the industry, experts emphasised the need for human-generated knowledge and curation alongside AI, especially to mitigate the risk of factual distortions. To address the changing demands of this AI-influenced landscape, experts highlighted the need to:

- develop a nuanced understanding of AI capabilities and manage it effectively
- strike a balance between AI tools and creativity, and
- prepare the workforce for new jobs while adapting to the loss of others.

The emphasis is on proactive policymaking and strategic human-centred skill-building efforts, especially amongst South Africa's youth and those most vulnerable to job displacement, to ensure equitable access to the opportunities and benefits offered by AI innovation. The discussions underscored the importance of understanding the implications of AI on creativity, knowledge ownership, and workforce development, while also addressing biases and ensuring inclusivity in the AI ecosystem.

4.2.3 Breakaway sessions and discussions

On the day of Café AI workshop, the hybrid attendees broke away into three workshop streams (three in person and one online, discussing three sub-themes). The below section thematically summarises the main points made by participants in those breakaway sessions and any outcomes that emerged from them.

Table 5: Summary of Café AI workshop streams, moderators and format of the session

Workshop session: sub-themes	Moderator/ researcher	Format
Jobs displacement, skills development, and keeping pace with AI	Kuben Nair, Harambee Mariapoala McGurk (Independent researcher)	In person
Tackling copyright, IP, ownership & mitigating against bias in the AI era	Dr. Oliver Sherenberg Amy Shelver, Nelson Mandela University (SACO researcher) Heike Pratsche (GIZ) Karabo Maiyane, Nelson Mandela University (SACO researcher)	Online In person
How AI impacts creative work and daily creative production	Louise Claasen, Henley Business School Masilakhe Njomane, Nelson Mandela University (SACO researcher)	In person

4.2.3.1 Jobs displacement, skills development, and keeping pace with AI

As the 4IR is turbo-charged by AI, South Africa is entering a new era of competing with AI for jobs; and traditionally protected professions such creative, legal, software development and other white-collar jobs are also at risk of comprehensive disruption. However, the skills question in South Africa is made more complex by a significant skills deficit and divide; a digital divide; and chronic and growing unemployment. According to StatsSA (May, 2024), the official unemployment rate was 32,9% in the first quarter of 2024. Statistics show that there are 16,7 million employed people in South Africa (in the first quarter of 2024). Meanwhile 8,2 million people were unemployed during

the same quarter. Additionally, the number of people who were not economically active for reasons other than discouragement is a total of 13,1 million people. This puts the total number of unemployed or non-economically active people at 21,3 million or one third of the entire 61 million population. The disruptive effects of AI on jobs means significantly more in the South African context, especially for the youth. This workshop session addressed these challenges directly.

Creative youth form part of the labour force heavily concentrated in the informal employment and precarious work sectors (SACO, 2024; SACO 2022b). While an unpredictable and challenging landscape to work in, creative youth tend to be committed, entrepreneurial and often resilient to shocks. UNESCO's 2022 report notes that the CCIs are among the most rapidly growing sectors, generating nearly "50 million jobs worldwide and employing more people in the 15–29 age group than any other sector. Employment in these sectors favours women and youth" (2022a: 55). However, it argues, the knock-on impact of COVID-19 has been devastating, negatively touching livelihoods, artist mobility, market access and artistic freedom, together with broader repercussions for the value chain of suppliers and service providers (ibid). Similarly, rapid digital transformation and the AI disruption to the CCIs is compounding existing fractures – evident before COVID-19 and made more obvious in the pandemic aftermath.

With these challenges in mind, the workshop session on "Jobs displacement, skills development, and keeping pace with AI" addressed five central topics in the foreground of AI's emergence:

- **Human creativity and AI:** It was acknowledged that while AI can assist in a variety of tasks; human judgment, imagination, and problem-solving skills remain essential. A participant stated, "*AI will never catch up on human ingenuity*". One participant highlighted, "*We always need to remember that AI is a tool and human creativity is fundamental.*"
- **Access and inclusion:** Concerns were raised about ensuring access to opportunities for all, especially marginalised groups and those excluded from formal spaces, especially rural-based people. The Harambee initiative "SAYouth.mobi" was highlighted as a platform to reach rural and township youth and ensure their participation and awareness of AI, and their training to engage in the AI era. The need to democratise broadband access and engage civil society organisations to promote inclusivity was emphasised.
- **Skilling and empowerment:** Participants stressed the importance of empowering young people with resources like devices, software, and data to enable them to become self-employed entrepreneurs who can use AI effectively. One participant advocated for a mindset shift towards entrepreneurship: "*I'm not worried about jobs – rather come with ideas on how to create self-employed South Africans and not full-time job reliance. I am advocating for entrepreneurship / self-employment. Not just internships but a change of mindset*". Prior learning opportunities for the 'missing middle' (those aged 35-65) were discussed, stressing the importance of acknowledging experience alongside formal qualifications; training, reskilling and upskilling for the AI era.
- **Partnership and bridging divides:** Collaboration between different demographics and sectors was highlighted as critical for addressing challenges and leveraging opportunities presented by AI. One respondent asked whether there could be a WhatsApp group to share information on AI and youth development. Concerns were raised about bias in AI algorithms, particularly in recruitment processes, highlighting the need for inclusive participation in platform development.
- **Challenges and opportunities:** Challenges such as bias in AI algorithms and job displacement were discussed alongside opportunities for skilling, empowerment, and

collaboration. The importance of addressing biases and ensuring inclusivity in AI development and deployment was underscored.

Outcomes for policy consideration:

The following policy areas were mentioned as key areas for considerations by the South African government when addressing the jobs and skills challenge in an AI era:

- Access to resources such as devices and data is crucial for enabling youth participation.
- Bridging the gap between formal education and prior learning opportunities for the 'missing middle' is essential.
- Empowering youth through relevant skills development and entrepreneurship is key to addressing AI-led job displacement.
- Collaboration between different stakeholders is necessary for addressing challenges and leveraging opportunities presented by AI.
- Ensuring inclusivity and addressing biases in AI development and deployment is crucial for ensuring, where possible, equitable outcomes.

4.2.3.2 Tackling copyright, IP, ownership & mitigating against bias in the AI era

The online workshop on “tackling copyright, IP, ownership & mitigating against bias in the AI era”, delved into the complex relationship between AI, intellectual property (IP), and copyright law within the CCIs focusing on insights from experts from the EU, UK and South Africa and participants. Key concerns revolved around bias in AI training data, the digital divide and unequal access to technology and tools, and the potential transformation of creative work processes through AI adoption. The following themes emerged from the discussions and inputs:

- **Local data representation:** Concerns about bias in AI training data, accenting the need for more diverse and representative data sources. Challenges of the digital divide and unequal access to technology and tools.
- **Copyright and IP rights:** The need for new policies and legal frameworks to address the challenges of AI-generated content and copyright law. Importance of recognising the value of human creativity and knowledge production in the context of AI.
- **Policy gaps and challenges:** Lack of comprehensive and informed AI policies, particularly in South Africa and other African countries. Need for policymakers to be better equipped to understand and regulate AI technologies. Importance of addressing the digital divide and promoting access to data and technology.
- **Managing transformation:** Adoption of equity models to ensure fair compensation and benefit-sharing in AI-driven creative processes. Leveraging new technologies such as blockchain and NFTs to track data lineage and ownership. Investing in education and training to prepare the workforce for the changing landscape of the creative industries. Proactive approaches to empower artists, creative workers, and policymakers to understand and utilize AI effectively.
- **Positive impacts of AI adoption:** AI can significantly reduce production costs and increase efficiency in the creative industries; and by focusing on skills development and creative aspects, the industry can mitigate potential job losses due to AI automation. AI can open new opportunities and markets for creative content from developing countries. The focus on local data, stories, IP and representation in AI can create a unique advantage for regions like Africa.

4.2.3.2.1 Local data representation

A large part of the discussions focused on how AI works, where the inputs/ data originate from, and what makes knowledge human. A representative of the Wikimedia Foundation said it had:

Come to the hard conclusion that knowledge is a fundamentally human activity. It is produced by humans for humans. It comes out of the real world.

The introduction of any data, but especially LLM data requires human input since it is humans who create the digital world to mirror the real world. However, which humans generate these inputs, and which worlds are represented is deeply contested and problematic, especially since source material can be biased toward the viewpoints, geographies, cultures and experiences in which they are generated. The importance of ensuring that more nuanced, representative and localised data is included in LLMs and datasets is not a new issue, but it is becoming increasingly urgent because of some other key factors. Chief among these is ‘reinforcement regurgitation’. One participant said:

It's garbage in, garbage out. No matter how sophisticated your AI model or your neural network, if the data is unstructured or unfiltered or biased, you're going to get garbage out. But really, fundamentally, it's about the data sets that train the model. One of the problems in Africa and the rest of the developing world has been that it's not producing that much data, so there's not much to go on. It's that sort of digital worlds divide problem that needs to be confronted. We proactively need to be working on this by providing this data. Currently, there's a very big gap and that's going to have a ripple effect because if we don't mitigate this now, it's going to be morphed into that AI and we're going to go into that black box problem and no one's going to understand how the outputs are coming out; and how to stop bias reproduction.

Spotlighting these issues about human knowledge production and embedded bias and the need for more diverse data, highlights two related issues: firstly, the impact on creativity; and secondly, the level of access (to data and technological infrastructure and skills) to input into the data sources and streams. “What would it mean to creativity in the future if we have so much AI generated content that will then probably be re-fed into training data, so we get this kind of regurgitation reinforcement”, asked one participant. Another highlighted that without a stable internet connection and access, it would be impossible to compete with those in developed nations where access is more prolific.

4.2.3.2.2 Understanding copyright and protecting local IP Rights

The discussion went to basics on the purpose of general copyright law, its resultant impact on innovation and creativity, and a call for revisionist approaches to navigating copyright in an AI-transformed moment. Dr. Scherenberg said:

The reason why copyright and intellectual property law exists, is to encourage creativity. How it does that is through the awarding of these monopolies that last for a long time. That's what copyright is. It's a temporary monopoly over your own work. The justification for it, is to promote creativity because it's regarded that creativity is good for society.

The conversation covered the complexities of how certain platforms have used open-source and copywritten materials to create GenAI templates through analysis of recurring patterns; and how the law, especially European law, is both responding and not responding to AI industry developments. The implications for creativity and remuneration are significant, an IP lawyer in the workshop said. “Effectively we need new policy to deal with this. The age of old copyright is out. So, what does this new copyright law look like?”. According to Dr. Scherenberg, EU law allows for the use of copyrighted, publicly available goods by training models to “extract patterns and certain information from them” but not to directly copy and reproduce. Still, Dr. Scherenberg notes, “we know our models are trained with copyrighted material [by big corporations], but sometimes it's

better [for them] to ask for forgiveness than for permission. Because they say: Well, we will be so big, we will be so important, and we will show society how great it is, what we are building, that it doesn't really matter if there are some sacrifices along the way. But basically, what they're doing is they're throwing the entire creative industry under the bus and saying, well, that's a sacrifice we have to do [for the greater good of AI]." He stressed a lot has to do with the technicalities of how AI models work: *"They learn on patterns, and they don't even reproduce, but they basically reinterpret based on patterns they have learned before, which means typically output can never be the same as an input"*. As a result, AI companies are not 'copying' *per se* but using an exemplar to create a similar something.

According to the Wikimedia Foundation representative, Mr. Scott, the Wikipedia community has taken the decision to go *"out on a bit of a limb"* by reaching an ongoing consensus that *"AI [produced content] is not copyrightable"*. This is important in relation to creativity in that human work and knowledge is, and the aggregate of it (compressed and reproduced by AI) is not. One participant reminded the attendees that the notion and practice of 'openness' is very much part of online culture and sharing communities, invoking open access, open source, open science, open research, and open culture as examples. *"It's a very dynamic world that lives side by side with the world of copyright,"* they said. The challenge is that big companies have used 'openness' and some freedom of interpretation within the law to their benefit in establishing their AI offering, without always accounting for actual or unintended consequences in relations to IP and creative work.

In the context of a disruptive change, applicable laws must work until they transform. *"Good legal systems really qualify for exactly these periods of times where you have uncertainty, because they are abstract enough to also cover future cases. Lawyers and policymakers must try to use existing models and principles, apply them to new and uncharted territories, until such a time as they are amended"* advised Dr. Scherenberg. Still, that legal transformation is imminent and needed, argued all workshop participants. Much of the work would need to start with policy, the workshop participants said. Their inputs on policy are covered in the next section.

4.2.3.2.3 Policy gaps and challenges

Can policy keep pace with AI? Do we need a whole new kind of AI-generated policy that can keep up with itself? These were the opening questions from participants to the policy element of the workshop discussion. There was significant emphasis put on the idea that disruptive technologies are a *tool* and not a *replacement* for creativity, creative work and for creative workers. Still, there is an urgent gap that needs to be addresses in supporting people to understand how to utilise and leverage these tools on the one hand; and to protect them from the negative impacts on the other.

In the African and South African context, the policy discussions are *"still not very deep and it's not all that well informed at the stage because it's just so new"* said one participant. Another said, *"I really think that in South Africa, even in Africa, we need to work on the issue of policy and start there to govern the emergence and use of AI and its impact because majority of these [Big Tech] companies that are running this type of business are not governed by government or local government"*. In South Africa there are recent (March 2024) attempts at establishing a national AI policy, and subsequent regulatory framework. In April 2024, the Department of Communications and Digital Technologies (DCDT) published a Draft National Artificial Intelligence Plan discussion document, although it was poorly received by experts and the public (Thorne, 2024: online). The document *"appears to have been published as a rough draft – it is repetitive, has conflicting provisions and is not sufficiently advanced, specific or practical in clarifying and setting a clear policy approach and informed plan to offer meaningful guidance on the way forward,"* said Werksmans' head of technology and innovation Preeta Bhagattjee and senior associate Savanna Stephens in a BusinessTech article. While the draft suggests a degree of data sovereignty to

manage the extensive data needed for AI training in South Africa it fails to mention the essential [Draft National Data and Cloud Policy](#),³³ or address the challenges in securing the computing power needed for its objectives, an expert in the article said (ibid.).

To date, the South African government has established an AI Institute in partnership with academic institutions, the University of Johannesburg (UJ) and Tshwane University of Technology (TUT), to drive economic and social policies, promote the adoption of AI, and support the country's digital transformation agenda. It has also established AI Hubs, including the UJ and TUT AI Hubs, which serve as Centres of Excellence and Hubs for the application of AI within sector economies, with focus areas such as education, government, healthcare, energy, and mobility (DCDT, 2024). The Draft National Artificial Intelligence Plan discussion document suggests several key approaches to tackle AI policy in South Africa. These include:

- the creation of a National AI plan to advance growth and take advantage of the algorithmic age;
- the development and implementation of a regulatory approach to AI in South Africa over the period of 2025 to 2027;
- an ethical and principle-based approach to building the legal framework; and
- the need to create an enabling environment for AI adoption, including expanding internet connectivity and digital infrastructure, investing in talent and skills development, promoting competitive and open markets, and supporting technological innovation (ibid.).

But challenges around clear timelines, funding, wide stakeholder consultation, and negative impacts of AI are also clear in the draft document. As a workshop participant said, “we need to have a proper policy that governs the AI industry; and one that ensures that more of the training data comes from South Africa, comes from the African continent.” Another said:

AI exploded on the scene. This is caught policymakers flat footed. It's going to take time for people a) to get their act together to start doing something about it, which is happening now; b) what to do, what are the options; and c) to reach a compromise on what should governments do. South Africa, has, at best, a second mover advantage in this industry.

The associated risk is that, while mistakes can be avoided, second movers often don't get to set the standards, and first movers could set up monopolies. This has already unfolded elsewhere, as one participant said:

Mostly American, some Chinese, firms have gone across the internet scraping all the data and using that to feed and train these AI models, and now we are only catching up to the realization that they've got all this for free, but this seems to come at a social cost, and that maybe they should be paying for this. But now as second movers, there's a chance we have to pay a bigger cost for access to the data and the enormous data sets that are used to train AI.

Knowing the cost implications and the challenge with not being able to set standards, enables the South African government to focus on how to close certain gaps, especially taking action to overcome the digital divide. One of the actions, one participant said, is to make access to data a right and give free access data – in a context where currently Africans pay amongst the highest charges in the world for access to data: “The government can regulate that and can increase people's access to data by lowering costs or ensuring that people get a legal minimum sort of data

³³ https://www.gov.za/sites/default/files/gcis_document/202104/44389gon206.pdf

allowance every month, for example.” Data as a utility or basic human right is a consideration for governments in Africa trying to balance the access scales.

Other interventions can also support closing the digital divide: better education, electrification, infrastructure, and training are key steps. All participants advocated for better training of policymakers directly and suggested interventionist campaigns to enable them to actually make relevant policy, experience AI (its possibilities and pitfalls) directly, understand policymaking in this new epoch, and integrate lessons from a local, regional and global perspective. *“In this new era, and we need to also empower ourselves to know where we can actually use the technology and the Internet to its full might,”* a participant said. Another said:

People who put policies together need to be equipped before we are equipped, because we are in their hands, as the public. So, if the people that are putting the policies or the entities behind the policies are not equipped enough to understand these technologies and how they will morph into the IP world? We will not have any advancements.

Consequently, it is recommended that South Africa create proactive institutions to help creative workers and policymakers understand technology generally and AI specifically.

4.2.3.2.4 Managing Transformation in the AI Era

There are different models that can support the management of an AI transformed world. Workshop participants highlighted the importance of proactively managing the transformation of the CCIs in response to AI's disruptive potential. Several models were proposed, with a particular emphasis on equity models that acknowledge the origins of intellectual property and ensure fair compensation throughout the creative process.

Leveraging new technologies such as blockchain and NFTs (non-fungible tokens) was seen as a promising avenue. By embedding data lineage within NFTs, the genesis and ownership of creative works can be transparently tracked, ensuring that benefits and royalties are distributed equitably among all contributors. As one participant noted:

If you look at some models, for example, with NFTs of a data lineage being stored within that NFT, from that first creation of that piece of data through its treatment and output, you can understand how that fits in if it's built in at an LLM at the very, very base level, if your language model is built around an equity model.

One participant highlighted early work they are doing on embedding equity models from the project genesis, to ensure a fair share of dividends, or a ‘valorisation model’.

How do we look at collective creative products, like music, movies and TV, and build these equity structures inside them so that everyone who's involved from the smallest contribution to the greatest has a fair stake in what they build [is critical at the onset of a project]; so, it's not always left to boardrooms far, far away.

The workshop also highlighted the potential for AI to democratise access to information and creative tools, particularly in regions with limited resources. The development of natural language processing applications on mobile phones, for example, could enable individuals to interact with the internet through spoken word and images, regardless of their literacy levels or access to traditional computing devices.

By embracing new technologies, promoting equitable models, investing in skills development, and supporting ecosystems to generate and protect IP, South Africa and Africa can position itself more strategically as a leader in the global creative landscape.

Outcomes for policy consideration:

- **Data representation and bias mitigation:** Policies (with a focus on regional policy development) need to be created that promote the development and use of diverse, locally sourced training datasets to minimise bias in AI outputs.
- **Digital literacy and inclusion:** Government initiatives aimed at improving digital literacy and technology access, particularly in marginalised communities need to be prioritised.
- **IP protection in the AI era:** Strengthening intellectual property frameworks, reviewing, and updating existing copyright and intellectual property laws to adequately protect creatives rights and ensure fair compensation when their work contributes to AI development. This is a powerful policy inclusion that needs to be considered. There is a possibility to consider adopting a collective rights management model to protect and manage the rights of creators in the digital age in consultation with partners and stakeholders. It is important to consider how public and private sector can invest in research and tools to mitigate bias in AI training data and ensure fair and equitable outcomes.
- **Skills development and adaptation:** Policies supporting skills development and training programs aligned with the evolving needs of the AI-influenced CCIs. This should address both potential job displacement and the emergence of new roles. Policymakers should be trained, alongside creative workers, on transformative impacts of AI, ethics, bias, and different policy approaches. Collaboration should be encouraged between academic institutions, industry leaders, and government agencies to develop relevant AI skills and expertise.
- **Invest in data infrastructure and access:** There is a need to prioritise investment in data infrastructure, including high-speed internet connectivity and access to affordable data for all citizens; alongside viable local data repositories and platforms that reflect the diversity and richness of South African and African cultures and languages.
- **Encourage innovation and experimentation:** Government can, through existing and new policy, create a regulatory environment that nurtures innovation and experimentation in AI applications for the CCIs by supporting the development of startups and small businesses that are exploring new and creative uses of AI. Alongside delivering MSME support, there should be the establishment of regulatory sandboxes to allow for testing and experimentation with new AI technologies and business models.

4.2.3.3 Session on how AI impacts creative work and daily creative production

The in-person focus group/ workshop session on “AI impacts creative work and daily creative production” addressed a few key issues related to creative goods and services. Firstly, it tackled the intersections between AI, data, and the value of creativity. Participants argued that creatives need a better understanding of the value of their data, IP, and the need to protect it with improved technology and systems. The conversation then focused on ownership and protection of narratives emerging from the continent. One participant pointed out: “Who controls the data and how narratives are constructed is of paramount importance. There's a need for AI models that assimilate and protect the creative output”. This point is a critical one to acknowledge. In response to the AI tools and software emerging from the Global North and Big Tech, there is an opportunity to use similar AI technologies to address the challenges AI creates. For example, AI tools can be developed to protect or register intellectual property, as seen with the use of blockchain technology. This approach can help balance the impact of AI by utilising the same technologies and methods that pose the initial challenges. *“We need to look at better technology and systems that run the data we input into it,”* as one respondent said. *“As creatives our strong suit is our narratives: Who is that valuable data going through? Can there be an AI model that assimilates and protects the end product for these creatives on the ground,”* said a participant.

Generally, the group asked:

- What could the AI future look for us as creatives?
- How would that world be different to what we know now and how does that future work?
- How do we understand the value of what we're creating and what is that data worth?
- Are we in danger of the technology impacting our creativity?
- How do we find equilibrium within this space that we're in now?

Insight: Animation SA's AI-Driven Transformation – input from Isabelle Rorke, Animation SA

Animation SA, an organisation representing the South African animation industry, offers a compelling example of how AI can be leveraged to enhance creativity and productivity while mitigating potential job losses. Recognising the disruptive potential of AI, Animation SA proactively integrated AI into its production pipeline, reducing budgets by up to 50% and significantly increasing efficiency. *“Within our incubator, where we're developing 10 first-time African animated TV series producers, we used that opportunity to bring AI into our pipeline.”* stated Isabelle Rorke, Deputy Chairperson of Animation South Africa.

By focusing on upskilling and training of first-time producers (high risk for investors), Animation SA empowered its cohort of animators, including 30 women, to embrace AI as a tool for innovation rather than a threat to their livelihoods. *“We've really had incredible discoveries and been able to really make the pipeline a lot more efficient and productive.”* They also adopted an ‘inverted value chain’ approach, emphasising the development phase and investing in artists, writers, and business professionals, ensuring that the core creative aspects of the production remained human-driven. This strategic approach has enabled animators to derisk job losses and to not only adapt to the changing landscape but also to thrive in the AI era, creating new opportunities for growth and expansion.

The incubator became another sort of solution and risk mitigator where we created this inverted value chain of bringing everything at the end of the value chain into development. And instead of three-year production pipelines, we can now do it in months or less than a year. So, we can churn out a lot more content. The point? Flipping [beliefs about AI] and looking at where's the opportunity and how can we leverage this for our benefits.

Interrogating these questions, a central theme of the workshop became the ownership and protection of narratives emerging from the African continent. Participants expressed concerns about who controls the data and how these narratives are constructed. One participant stressed, *“Who controls the data and how narratives are constructed is of paramount importance. There's a need for AI models that assimilate and protect the creative output.”* This insight highlighted the need for technology that not only leverages AI but also ensures the safeguarding of IP through mechanisms like blockchain.

Participants discussed the potential risks of AI diminishing authentic creativity. They advocated for greater equilibrium in the current technological landscape. Concerns were voiced about the speed of technology, which, while beneficial, may not always meet user standards.

The focus group also acknowledged that new technology could provide more access than previously available, benefiting a larger audience and encouraging broader inclusion within the creative industries. The value of the arts and culture will not depreciate with the incorporation of

more technology, they said, adding there is a continued appreciation for traditional formats despite the availability of AI tools.

Looking forward, the group pondered how AI could transform the creative landscape and the world at large. Could AI be used from a human rights perspective or seen as a digital pet? They noted that AI has the potential to bring creatives closer to their audiences in unprecedented ways. It can disrupt global systems, empowering positive outcomes if managed collaboratively. There is a call for AI to be a safe space for all users, reimagining African symbols and knowledge, and reclaiming histories.

Participants stressed the need for more connections and collaborations within the AI sphere, highlighting the importance of engaging parts of the country that currently lack access to these technologies. Collaboration across different government departments and the rapid policy implementation are necessary to avoid falling behind in the AI race, they said.

Outcomes for policy consideration:

The session teased out that collaboration is crucial for effectively shaping AI's use in CCI and needs to be nurtured at a programmatic level. Creative workers need to be proactive in steering AI's development and take part in its governance to avoid losing control of their work. There's a need to democratise AI tools and access to them while preserving traditional artforms and creative workflows. African voices and perspectives must be prioritised as AI evolves. Policymakers have a crucial role to play in ensuring AI benefits Africa rather than leading to further exploitation. The following policy outcomes may be explored:

- **Establish clear data ownership and usage guidelines:** Policies should explicitly define who owns creative data, how it can be used for AI training, and what rights creators retain over their contributions. Consider establishing transparent consent mechanisms built into technology itself and mandated by policy.
- **Promote ethical AI development and data practices:** Encourage the creation of AI models and tools that prioritize the protection of creative work, respect intellectual property rights, and prioritise data sovereignty principles.
- **Safeguard narratives:** Encourage the private sector, led by policy, to develop tools for narrative control, tracking creative work, and empowering creatives to maintain control over how their work is used in AI datasets.
- **Incentivise the development of AI models:** AI models that are locally/ regionally need to be built with embedded cultural awareness and trained on diverse datasets and capable of recognising and respecting cultural sensitivities, thereby mitigating the risk of misappropriation or misrepresentation.
- **Subsidise access to AI tools:** Provide subsidies or tiered pricing structures to make AI-powered creative tools more accessible to smaller studios, independent artists, and those in underserved communities, with private sector and civil society and NGOs.
- **Provide digital literacy and AI skills training:** Offer comprehensive training programs on digital tools, AI technologies, and their applications in the CCIs, especially targeting creators in underrepresented areas.
- **Develop AI resources in local languages:** Invest in the development of AI tools and interfaces that support diverse languages, ensuring inclusivity and accessibility across regions. For example support of Lelapa AI's LLM project.
- **Set up multi-stakeholder advisory councils:** Create ongoing dialogue and policy development processes involving artists, creative workers, technologists, policymakers, and community representatives to ensure that policies remain responsive to the needs of the dynamic CCIs.

- **Support research on AI's impact on creativity:** Fund ongoing research projects to analyse the impact of AI on various aspects of creativity, ranging from artistic practices to business models within the creative industries.

4.2.4 Conclusion: Café AI National Workshop

The Café AI National Workshop, a collaborative effort between SACO, Fak'ugesi Festival, and other partners, aimed to address the impact of AI on the CCIs in South Africa. The event consisted of a debate on AI's potential as a “rushed revolution” or “holy grail,” followed by thematic discussions and workshops.

The debate revealed a tension between AI's transformative possibilities and its potential risks, particularly for a developing country like South Africa. Supporters emphasised AI's potential to democratise tasks, improve efficiency, and promote creativity, while critics highlighted concerns about infrastructure readiness, data colonialism, and the lack of government policy.

Workshop sessions focused on job displacement, skills development, IP, copyright, and keeping pace with AI. Participants emphasised the importance of human creativity and judgment, advocating for inclusive access to AI resources and opportunities, especially for marginalised groups. They also stressed the need for skilling and empowerment programs, partnerships across sectors, and addressing biases in AI algorithms.

Key policy considerations emerging from the workshop include:

- Ensuring access to resources such as data, devices and software for all.
- Creating opportunities for training, reskilling, and upskilling, particularly for the youth and those in the missing middle.
- Cultivating collaboration between different demographics and sectors.
- Addressing biases in AI algorithms and ensuring inclusivity in platform development.

The Café AI workshop highlighted the complex and multifaceted nature of AI's impact on the CCIs in South Africa. It underscored the need for proactive policies and initiatives to harness AI's potential for good while mitigating its risks and ensuring equitable access to its benefits for all, as well as the need for stakeholder engagement and collaboration. The tensions discussed in the workshop represent a fundamental philosophical departure point for greater tensions at play across all industries disrupted by the revolution of AI, colliding with waves of other technological change on the frontiers of human-machine potential.

The next section (Section 5) synthesizes the survey and workshop data from an academic standpoint, arguing that the AI era currently represents the ground for deep tensions, especially for the CCIs. It also presents more voices from the qualitative elements of the survey alongside the presentation of in-depth coverage of interviews with industry experts and the presentation of a case study from a creative worker embracing and using AI.

5 Synthesis: A time of tensions

The rise of AI presents both a new realm of possibilities for the South African commercial CCIs, for creative work and workers, but also an existential threat given just how exposed and still emerging they are in the global and nascent continental marketplace (UNCTAD, 2022). Africa's share of the global creative economy is staggeringly low, accounting for only around 2.9% of global creative goods exports, representing \$58.4 billion and less than 1% of the African GDP (UNCTAD, 2022:33). While AI promises prospects for content creation, global reach, and production efficiency, it simultaneously ignites tensions that demand both policy attention and creative community activism and action.

This section delves into these tensions, what they are, why they have emerged, and how the South African CCIs understand and are responding to them in the algorithmic age. It incorporates at a more granular level qualitative voices from surveys, interviews and case studies to illustrate the tensions. In this section, the authors explore the delicate balance between human creativity and machine intervention, the power struggles between artistic agency and policy regulation, and the complex interplay between ethical considerations and the speed of technological progress and deployment. To enhance AI preparedness requires that all those engaging it or regulating for it – practitioners, policymakers, politicians, average people – gain fundamental understanding of what AI is, how it works and changes, where the risks are, and what strategic levers are available, and what partnerships need to be established to respond to the quantum changes AI is triggering.

At this juncture in the AI evolution, dichotomies abound across the global CCIs – fear and excitement, experimentation and failure, unimaginable possibility, and experiences daily unintended consequences for all parties (both upsides and downsides). A recent furore around an Adobe company terms and conditions update provides an excellent example. Adobe encouraged Adobe Photoshop users (many photographers) to “skip the photoshoot” in one of their AI-adverts. This prompted caused their core marketplace (photographers) ire. The American Society of Media Photographers wrote in an open letter to the company saying:

Put simply, why, Adobe, would you dismiss and discount all that your most fervent and loyal customers aspire to? And this was an attack; an attack on the creativity of the photographer, on the skill and nuance they bring to the photoshoot, and the countless hours they spend preparing for, and working after the photoshoot you are so cavalier to simply throw away (ASMP, 2024: online).

Still, for the CCIs, the advent of AI heralds a new era of speed, innovation and ability, powered by technology. AI, machine learning, and large language models, when harnessed alongside appropriate big data sets, offer transformative potential. As explored above, these tools promise to contribute to the solving of humanity's many challenges in new and unique ways, rendering mundane tasks less so, super-charging content generation, compressing mammoth datasets to support decisions, and elevating the value of ideas and intellectual contributions, ultimately reshaping the landscape of intellectual property.

Nevertheless, the research we have conducted shows that blind excitement or paralysing fear are not the answer in responding to the AI era. Nuance, complexity, preparation, training, new skills development, experimentation, education, activism are better stances to adapting to while embracing revolutionary change. In this section the authors look at these tensions as themes that have materialised through the literature and primary research we have conducted and consider mainly the tensions between power and policy; ethical caution and speed of deployment; and

human creativity and machine creativity; control and agency, among other tensions (see Table 6). We also present insights through several industry case studies, which problematise or showcase AI's use cases and uptake as it is happening in the South African context right now.

Historically, the CCIs have been at the forefront of technological adoption, driven by a spirit of experimentation and a willingness to embrace risk as an inherent part of the creative process (Jones, 2018). However, the advent of AI presents a unique challenge. The potential for AI to automate creative tasks raises concerns about the displacement of human creativity and the concentration of benefits in the hands of a few (Brynjolfsson & McAfee, 2014; O'Reilly, Strauss and Mazzucato, 2023). In the South African context, where socio-economic inequalities are already pronounced, the unmanaged integration of AI could exacerbate existing disparities (World Bank, 2018). A failure to address these issues could lead to a dystopian scenario where the majority of creative workers are relegated to the role of mere consumers, data sources, or ad hoc users, without adequate compensation for their contributions (O'Reilly, Strauss and Mazzucato, 2023). This could not only stifle creativity but also disrupt the economic foundations that support the AI industry itself. If AI-generated content becomes dominant, it could create a feedback loop of derivative works, colloquially referred to as AI "eating itself," potentially perpetuating misinformation and reinforcing existing biases (Bostrom, 2014).

The unchecked proliferation of AI-generated content poses a significant risk to economies and democracies given the centrality of purchasing power to economic functionality. The displacement of workers – happening already in the cultural and creative industries – within an economy threatens to impede growth. To mitigate these risks, a multi-stakeholder approach is essential. Policymakers, civil society organisations, academia, industry leaders, and creative workers themselves must collaborate to co-develop frameworks that ensure equitable access to AI technologies, fair compensation for creative work, and effective safeguards against the potential negative impacts of AI. The Department of Communications and Digital Technologies in August 2024 released a draft *South Africa National Artificial Intelligence Policy Framework* for public comment aiming to do just this. Investment in reskilling and education programmes is crucial to empower individuals to navigate the changing landscape and leverage AI as a tool for creative expression rather than a threat to their livelihoods. Equitable compensation mechanisms are particularly important, especially for creative workers whose contributions are augmented by AI technologies.

By acknowledging and exploring these tensions, this section aims to illuminate the complex landscape of AI's impact on the South African creative industries as of May 2024. The goal was to interrogate, through critical analysis and open discussion, pathways that embrace an AI augmented future, while protecting creative workers, work and processes.

5.1 Tackling the tensions

This section first explores the theoretical underpinnings of the tensions between power and policy; ethical caution and speed of deployment; and human creativity and machine creativity. It then relates the tensions back to the four themes that emerged through the research process, and which were the central topics for discussion at the Café AI national dialogue and workshop. It then links the themes to packed case studies and summaries of qualitative semi-structured interviews conducted. Each theme contains other inherent tensions (e.g. automation versus employment), yet these are also influenced by the below four broader, opposing forces emerging regarding the fundamental nature and future trajectory of the AI era.

- **Tension 1: Power versus policy**

At the heart of debates on the impact of AI on the CCIs lies a fundamental tension between power and policy – those who have and wield it. The rise of AI – and its mirror like quality reflecting the aggregate of accumulated human knowledge – only serves to amplify existing power imbalances, threatening to exclude marginalised voices and perpetuate disparities and bias between and within nations. While AI holds the promise of innovation and progress, questions loom large over ownership, funding, compensation, and taxation in the realm of creative production. Who benefits from AI-driven creativity? And who bears the costs? These pressing questions demand policy interventions to ensure equitable distribution of benefits and mitigate potential harms, such as the “rents” which AI or Big Data companies may impose or already are, as some argue (O'Reilly, Strauss, Mazzucato, and Rock, 2024: online).

- **Tension 2: Ethical caution versus speed of deployment**

Similarly, the slowness versus speed tension is prescient – especially when considering ethics and regulation. The prevailing ‘gold rush’ mentality in the tech industry has often outpaced regulatory efforts, highlighting the urgency of finding a balance between innovation and ethical responsibility and regulation (Floridi *et al.*, 2018; (Mittelstadt *et al.*, 2016). Speed of deployment, often seen as paramount in the fast-paced tech world, must be weighed against the need for thorough ethical evaluations. This requires an assessment of intended and unintended consequences; and adequate legal instruments that are both abstract enough to be applicable to a broad set of situations, and specific for each specific case of misuse/ abuse that arises (Cath, 2018). Questions on the role of the law, ethics and technology in governing AI systems are thus more relevant than ever. As Floridi argues: “because the digital revolution transforms our views about values and priorities, good behaviour, and what sort of innovation is not only sustainable but socially preferable – ... governing all this has now become the fundamental issue” (2018:2). The growing body of ethical frameworks, such as the 2021 UNESCO Recommendation on the Ethics of Artificial Intelligence and the EU AI Act of 2024, underscore the need for proactive measures to address issues of diversity, inclusion, and ethical AI development (UNESCO, 2022; European Commission, 2024). The EU AI Act, in particular, aims to become a global standard in AI regulation by categorising AI applications by risk and establishing legal requirements for high-risk applications (European Commission, 2024). The Act does three things: firstly, it bans applications and systems that create an unacceptable risk, such as government-run social scoring; secondly, high-risk applications, such as a CV-scanning tool that ranks job applicants, are subject to specific legal requirements; and thirdly, it leaves ‘unregulated’ room for AI activities that are not governed by the first two, effectively allowing space for innovation under non-banned or high-risk activities (EU AI Act, 2024). Knowledge development, ethical frameworks, regulatory mechanisms, and international cooperation are essential pillars for steering the AI revolution toward inclusive and equitable outcomes for all. Without them, power imbalances could increase, and it is possible these imbalances will also be galvanised by AI itself to the detriment of more vulnerable.

- **Tension 3: Human creativity versus machine creativity**

Ethics and policy aside, what of the existential question of creativity itself? This is of perhaps greater interest to the CCIs; and has implications for IP, copyright, compensation, credit and human-AI collaboration. The core tension lies in understanding the very essence of creativity – the human capacity for imagination, originality, and emotional expression – and whether a machine programmed on existing data sets, truly replicates these human qualities. Creative workers globally

are questioning if the human creative spark may be extinguished by algorithms, or if AI can serve as a powerful tool to augment and amplify human expression. The notion that AI could produce creative outputs is debated hotly. As AI's generative capabilities blur the lines between human and machine-generated work, there is a parallel need to expand the study of creativity. Advanced generative deep learning models have not only shown proficiency in solving complex problems but have also excelled in some artistic pursuits (although arguably in a predictable, middle-of-the-road manner), including composing poetry and music, speeding up editing of still and moving images, and crafting narratives (Franceschelli and Musolesi, 2023; Wang, Zou, Mozer et al, 2024).

While AI systems can generate content that resembles human creativity, such as music, art, or literature, creativity is more complex than generation³⁴. Creativity involves originality, novelty, and the ability to express unique ideas and emotions. But definitions of creativity, and what is deemed novel and of quality can differ greatly across various cultures, disciplines, and time periods (Wang, Zou, Mozer et al, 2024), making it difficult to then assess both human and AI creativity. Wang, Zou and Mozer et al (2024), argue that it is necessary to establish a framework to understand AI's creativity. In doing so they introduce two concepts:

- First, "Relative Creativity, where an AI model is deemed as creative as a hypothetical, yet realistic, human creator if it can produce works indistinguishable from that creator, as determined by an evaluator."... [and]
- Secondly, "Statistical Creativity, a means for understanding whether and to what degree AI achieves creativity by comparing it with existing human creators" (2024:2). They believe that, theoretically, AI can be as creative as humans, provided it can effectively fit conditional data, including artworks and the corresponding creation conditions and processes, generated by human creators (2024:11).

This is a significant theoretical assertion, but one based on AI's ability to compress sufficient data and generate from it with a degree of creative verisimilitude to humans. Here's the challenge: AI requires more and more data to improve, much of which would come from content created by creative workers themselves. However, with new legislation and protections, this content could become more tightly guarded, and the financial model might require fair compensation for creative workers – or not, depending on pending legal cases. This could make the data either more expensive or more exploitative. Depending on the outcome of various national and regional protections, AI might either run out of new data and end up recycling existing content, leading to less originality, or it might continue to receive more data – but at a cost, potentially from less ethical sources, raising IP, privacy and cybersecurity risks. In such a scenario, consumers could end up paying more for access, creating a vicious cycle of price gouging and poor-quality outputs.

Based on the possible scenario where AI matches human creativity, the authors of this report asked survey respondents whether they believe AI has the potential to replace human creativity in the creative sector.

Approximately 42.04% of respondents said they believe that AI has the potential to replace human creativity in the creative sector, while approximately 57.96% of respondents do not share this belief. One respondent said:

Sadly, yes. Our current ideas on society and general civilisation have now become accustomed to convenience, so having a tool that can help people create something they

³⁴ Where AI systems analysing vast amounts of data and learning patterns generate new content based on this information.

normally wouldn't be able to will create an issue of how much an artist should get paid, since now you can just pay for someone to make a machine complete the same task without worrying about the human aspect of coming to an agreement to the terms of any contract that would be needed.

Another said:

I do think there is a level to which it could replace human creativity which is a bit concerning - I've just seen a video about the advances to AI image and video generation which is astonishing. But at the same time human creativity is needed to feed AI so I believe there is also an element of excitement with regards to potential for new career avenues and upskilling opportunities, and also for AI to enhance what creatives are already doing and make production processes quicker, easier and cheaper for them, which could be harnessed”.

And one philosophically posited:

It depends on how smartly humans use it. Using its automatic outputs as a part of what you do and not everything you do is important. Human and 'machine intelligence' have different qualities. The question is how human labour will be valued but also what labour we will do that we can't imagine yet.

- **Tension 4: Control versus agency/openness**

Further complicating the above tensions is the issue of control against agency. As AI tools become more sophisticated, a tug-of-war emerges between the creative individual and the forces that shape and control AI development. Asking the question of who sets the parameters for AI-assisted creation is critical in understanding AI's programmatic roots. Do artists retain ownership and control over AI-generated works, or will they become data cogs in a machine driven by corporate interests or state regulation? Policy frameworks are essential for ensuring ethical and responsible AI development but navigating the tension between control and openness is crucial. That requires that various actors and stakeholders have voice and agency over their rights and compensation on the one hand; and that larger players are also both free to innovate while being necessarily and constrained by ethical mandates. Overly restrictive regulations can stifle innovation, while a *laissez-faire* approach risks exacerbating existing inequalities and ethical blind spots. Finding the right balance between policy intervention and creative freedom or innovation will be key to shaping a future where AI empowers, rather than restricts, artistic expression.

The South African context adds another layer of complexity. African nations and South Africa stand at a crossroads, eager to embrace AI's potential but wary of becoming mere data sources and consumers for the global AI machine and expanded technological rentier capitalism (O'Reilly, Strauss, Mazzucato, and Rock, 2024: only). In this context, we briefly explore whether South Africa, a continental leader in the creative economy, can harness AI to elevate its CCIs on the global stage and within the Global South, or whether it risks further marginalisation amid the powerful technological trends driven by companies from the Global North.

Based on the case studies and interviews conducted, it is evident that South Africa's creative workers and businesses are already embracing AI, understanding that failure to do so would risk them falling behind. However, this adoption occurs in the shadow of inadequate regulatory protections, particularly regarding IP and copyright, and the vast scale of AI deployment by powerful firms. On the one hand, these factors are diminishing creatives' agency and ability to address ethical and regulatory concerns, while on the other, also limiting their influence on local or

regional policy. This control vs. agency tension highlights the need for a careful balance between promoting innovation and ensuring regulatory protection.

The tensions mentioned above require deeper philosophical exploration within the context of the CCI, and further research is needed to fully understand the implications and impacts as these tensions evolve. From a synthesis perspective, the rapid deployment of AI could be seen as a rushed revolution, where its impacts are not thoroughly considered. Contradictorily, AI could also be holy grail for speed, efficiency, and productivity in certain creative fields. Finally, the discussion around AI in the CCI cannot ignore the emotional undercurrents. Excitement about the possibilities coexists with fear of the unknown. Daily, creative workers grapple with the potential disruption to their livelihoods and the very essence of their creative practice. Addressing these anxieties and prioritising dialogue is crucial for navigating the AI revolution in a spirit of collaboration and shared progress. The penultimate in the AI-era is the tension is between the past and the future and how the weight of the past influences, push of the present against the pull of the future (Futures Triangle, Inayatullah, 2007).

The next section spotlights some of voices emerging from early dialogues happening across the CCI, categorised thematically under the same thematic headlines³⁵ that emerged from the survey and workshop engagements. Case studies and interviews add depth to the dialogue and experience of the impact of AI on the CCI in South Africa specifically.

5.2 Qualitative synthesis: Voices, case studies and interviews

5.2.1 How AI impacts creative work and daily creative production

The incorporation of AI into daily creative workflows has both transformative potential and inherent challenges. Respondents to the dipstick survey offered their qualitative insights to a series of questions on how AI impacts creative work on a day-to-day basis, highlighting both the benefits and drawbacks. On the positive side, AI tools were praised for their ability to streamline certain aspects of creative production. One respondent noted, “*AI powered tools I've used were quite helpful in creative work*”. This sentiment is echoed by others who appreciated AI's capacity to assist with tasks such as grammar correction and image generation, saving time and effort in the creative process.

The qualitative inputs from the survey results show perceived positive impacts of AI on various areas of creative work. Figure 18 illustrates the range of areas of work encouragingly effected by AI. Predominately, text-based applications, with AI-generated text, articles, and reports (33.1%), AI-powered language translation (31.6%), and AI-driven research and data collection (25.7%) being the most frequently cited for their benefits. This suggests a significant impact of AI on content creation and knowledge-related tasks. The subsequent categories, including automated copywriting and content marketing (23.5%), AI-enhanced image editing and retouching (22.8%), AI-generated art and illustrations (22.8%), and content verification and fact-checking (22.8%), highlight the diverse applications of AI across different creative domains. These findings indicate that AI is not only automating tasks but also augmenting human creativity and enhancing the quality of creative outputs. The remaining categories, while receiving fewer responses, still demonstrated AI's influence in the CCI. These include applications in content personalisation,

³⁵ 1) How AI impacts creative work and daily creative production; 2) Job displacement, skills development, and keeping pace with AI; 3) Tackling copyright, IP, ownership & mitigating against bias in the AI era; 4) How to turn disadvantage into advantage: Local value made global, IP protected?

graphic design, education, music, video, data analysis, and more. This suggests that AI is becoming increasingly integrated into various aspects of the creative workflow, offering new tools and possibilities for creative professionals.

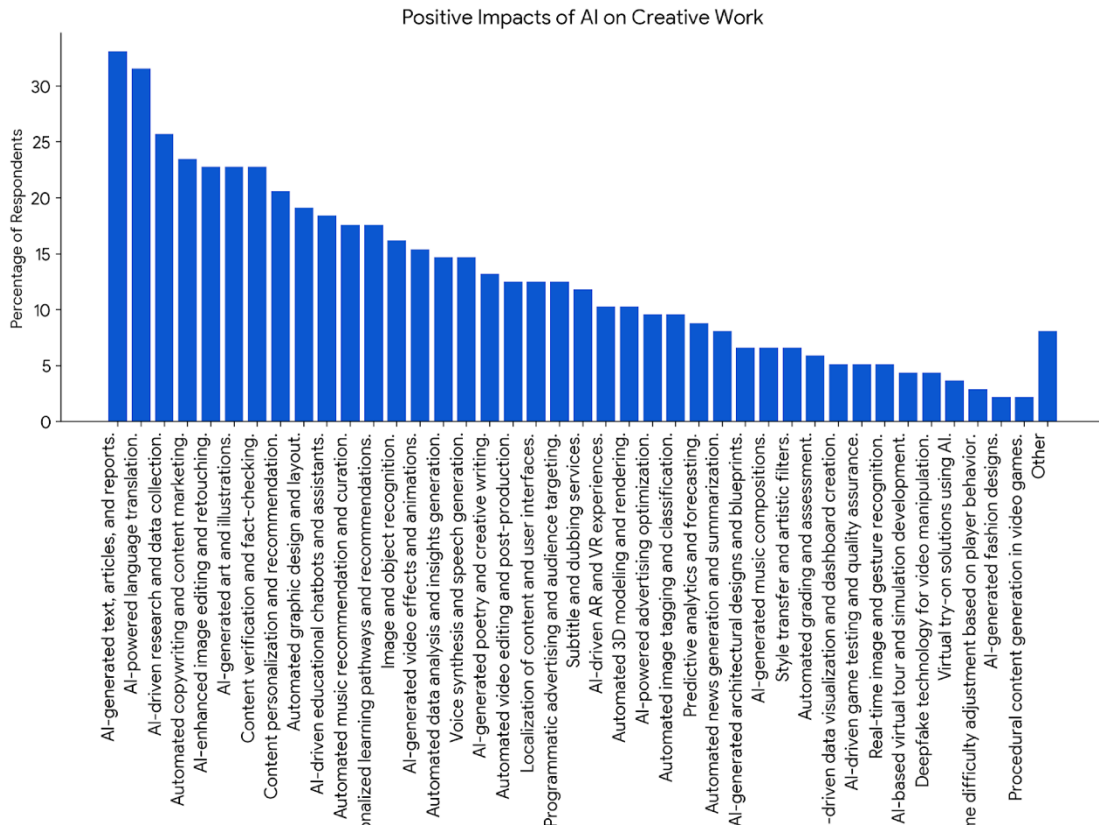


Figure 19: Common use of AI or GenAI tools or software as identified by survey respondents, SACO 2024

Overall, the graph paints a picture of AI as a transformative force in the creative industries, with a wide range of applications that are already being utilised to enhance productivity, creativity, and efficiency. However, it's important to note that this data represents self-reported positive impacts, and further research is needed to fully understand the nuanced effects of AI on the creative landscape, including potential challenges and disruptions.

However, challenges endure. One significant concern revolves around the limitations of AI's creative capabilities. Survey respondents highlighted AI's tendency to produce generic or inexperienced results, requiring human intervention to refine and enhance outputs. As one respondent aptly puts it, *"The results often feel amateurish"*. This suggests that while AI can offer support, it may not yet match the depth of human creativity, higher order thinking, and executive function. Furthermore, respondents expressed apprehension about the ethical implications of AI-generated content. Issues such as plagiarism, intellectual property infringement, and fair compensation for creators emerged as key concerns in the qualitative analysis. One participant articulated this by stating, *"AI should not infringe on any IP/ copyright through plagiarism"*.

Technical limitations also pose challenges for daily creative work. Issues such as inaccuracies in content generated, reliance on specific prompts for effective output, and the need for extensive training to master AI tools were cited as obstacles. Additionally, the cost associated with accessing sophisticated AI software presented a barrier for some creative workers, limiting their ability to fully leverage AI in their work. However, some respondents were positive about its impact on daily

creative production saying it helped provide: “1) Better quality work; 2) Pushing creative boundaries 3) opportunity to solve community problems 4) fast track work 5) lesson workload and frees up time.” Conversely, one respondent added:

Even though much of it [AI software] is free and online, the more sophisticated versions of it costs an arm and a leg, especially if it comes with software such as the Adobe Suite. Although it has the possibility to reduce the amount of work in a workflow, it's not always quite as reliable as one would hope for. I often have to redo things manually.

The tension between automation and manual creative craft are evident across the swarm of responses. A case study (see Case Study 1 below) best illustrates the transformative impact of AI on workflows in the animation sector. A recent report, *Future Unscripted: The Impact of Generative Artificial Intelligence on Entertainment Industry Jobs* (CVL Economics, 2024), notes that AI is poised to profoundly disrupt the animation and film sectors in particular, by consolidating certain job roles, introducing new positions, and rendering many traditional jobs obsolete. The report, which surveyed US-based industry executives and managers, revealed that three-quarters (75%) of respondents acknowledged the role of GenAI tools, software, and/or models in facilitating the elimination, reduction, or consolidation of jobs within their respective business divisions. Moreover, a significant 72% of surveyed firms identified themselves as early adopters of this transformative technology (2024: 5). Interestingly, only 26% of respondents expressed confidence in their organisation's readiness to integrate GenAI into their operational workflows. The report notes the disproportionate impact of AI integration on entry-level personnel as opposed to senior positions within the workforce. If similar trends are seen within a South African context, this will have a dire impact on youth development, internship programmes, and employment; furthering the amount of youth falling within the NEET category (not engaged in education, employment or training). “The jobs most susceptible to consolidation, replacement, or elimination will be concentrated among entry-level positions. These have rarely been glamorous or high paying jobs, but they have offered entry points into entertainment industries and serve as the primary pipeline to mid- and senior-level positions” (CVL Economics, 2024:12).

The below case study demonstrates how a South African animation studio has incorporating GenAI tools, software, and models into their production pipeline, as well as the initial impacts of this integration. It explores both the opportunities and challenges it encountered by Chocolate Tribe Animation Studio and its CEO/founder, Ms. Nosipho Maketo-van den Bragt.

5.2.1.1 Case Study 1: AI's impact on the creative industries workforce – Exploring AI integration in Chocolate Tribe Animation Studios

“We are definitely in the future... With the advent of AI, a lot of the drudge work, the repetitive work, we are seeing it go away because there are now new tools that you can use to take away that type of work” – Nosipho Maketo-van den Bragt, CEO/founder of Chocolate Tribe Animation Studio)

About Chocolate Tribe Animation Studios

Chocolate Tribe Animation Studio, established by Nosipho van den Bragt, inaugurated its operations in 2014 in Johannesburg, South Africa, with a satellite studio in Cape Town opening in 2022. Specialising in feature film, television series, and advertising, the studio boasts a wealth of creative, technical, and industry expertise amassed over 25 years of global experience. Central to Chocolate Tribe's operations is a dedication to optimising production pipelines and developing in-house tools to enhance efficiency across projects of all scales, ensuring the delivery of international quality standards. The studio caters to a diverse clientele comprising major production companies, agencies, and VFX houses, both domestically and internationally. Notable clients include Netflix (Amsterdam, Los Angeles), BBC, DMC Films, Voltage Pictures, The Mill (New York, London), Disney, Automatik, Axis, Passion Pictures, Glassworks (London, Amsterdam, and Barcelona), Ogilvy, TBWA, and MC Saatchi. The company includes 37 employees who are all on full time or long-term contracts and has a variety of mentorship and internship initiatives to capacitate entry level workers and youth into animation opportunities.

Chocolate Tribe Animation Studio has strategically integrated AI and Gen AI into its workflow to enhance various aspects of its operations, leveraging AI technologies such as ChatGPT, Dall-E, MidJourney, Stable Diffusion and Copycat. The studio has already integrated GenAI technologies to streamline its production processes, improve efficiency, and optimise creative workflows. However, there are numerous downsides to this such as the removal of training and mentorship opportunities on-the-job with more labour-intensive entry-level work now being done by AI.

Current use of AI within the Chocolate Tribe Animation Studios

“The opportunities are real! A lot comes up when you are in the studio: you can work faster, its more efficient, it's cheaper and it's accessible. It's open source so you can get different tools from different places, and you can amp up your production in terms of films, and marketing blurbs and all of that”.

Chocolate Tribe Animation Studios has already started incorporating AI into the following areas of work:

- **Concept art:** Concept art is a crucial stage in the development of a new project, encompassing the conceptualisation of ideas such as character development, scenes, and the visual narrative of the story. It serves to establish the tone, approach, and overall aesthetic of the project. Traditionally, this process involved hiring a team of concept artists to generate initial ideas and designs for the storyline. However, there has been a significant shift towards the utilisation of GenAI for this purpose. Generative AI rapidly produces initial concepts, streamlining the process and reducing the reliance on human concept artists. Tools such as MidJourney, Stable Diffusion, and Dall- E have emerged as the primary tools, says Ms. Maketo-van den Bragt. The downside of this development is that concept artists are often freelancers hired for a specific project or concept development. If this work is being done by Gen AI, then it will lessen the need to contract concept artists limiting their opportunities for work and sustainability, something Chocolate Tribe is already experiencing.
- **Rotoscoping:** an animation technique employed by animators to meticulously trace over individual frames of motion picture footage. Historically, this method involved projecting live-action movie images onto a glass panel and tracing them onto paper, with the aim of achieving lifelike movement and actions within animated sequences. Traditionally, this labour-intensive task would require the efforts of thousands of individuals who

meticulously traced each frame. However, with advancements in AI, this process has undergone a significant transformation. AI now enables real-time rotoscoping, eliminating the need for human intervention. This revolution has resulted in cost efficiency and accelerated production timelines, making the traditional human-intensive approach obsolete; and the studio is using these tools to fast-track work, and an often-tedious task.

- **ChatGPT:** Within Chocolate Tribe Animation Studios ChatGPT is already being used for social media posts, content development and editing, marketing content, and idea generation. It is a tool that is useful to everyday activities within the company. The need for editors and writers is shifting as one person can manage more work by utilising the AI tools available.

Concerns related to workforce

The emergence of GenAI is fundamentally reshaping work dynamics, necessitating a recalibration of workers' focus. Daily, Chocolate Tribe Animation Studios confronts this challenge, particularly with its impact on entry-level positions, which are now being occupied by AI tools/software. This affects the overall industry pipeline and the advancement of youth, women, and previously disadvantaged individuals who would normally enter the animation sector through this pathway but are now likely to be (further) excluded from it.

“A lot of the times, [in the industry and] even in our company, how we would integrate junior staff members, interns, women (as our industry is still quite heavily male dominated), people of colour, people who would never have thought to come into this industry – was through roles like admin, rotoscoping and learning the pipeline. All of that is going away. So [the AI issue] has got a real in terms of how we find new ways as employees to integrate people who would not ordinarily have been in this space due to a myriad of reasons.” – Ms. Maketo-van den Bragt.

The potential removal of entry-level roles raises pertinent questions about how individuals can acquire the requisite on-the-job experience to ascend to mid- and senior-level positions. Recognising this dilemma, Chocolate Tribe Animation Studios perceives it as their duty to devise solutions, and they are actively introducing alternative methods for mentorship and professional development. Among these initiatives is the AVIJoZI Festival, which serves as a platform to expose youth to diverse opportunities within the animation industry, not only as artists but also as integral staff members. The Studio conducts structured training sessions every Friday, enabling emerging talents to refine their skills and gain practical experience in a real-world setting. Furthermore, Chocolate Tribe Animation Studios organises roadshows targeted at previously disadvantaged communities, aiming to cultivate interest and awareness about the animation sector as a viable career path. As CEO of Chocolate Tribe, Nosipho engages in international outreach efforts, forging connections with companies abroad to facilitate collaborative projects. These endeavours seek to expand training initiatives dedicated to skill development activities.

Commentary

The advent of GenAI in South Africa is poised to initially affect entry-level positions in animation and other industries. This is damaging to the job market and industry pipeline, as these entry-level roles traditionally serve as the foundational learning grounds for youth to grasp the fundamentals of animation and progress into mid- and senior-level positions. Should GenAI undertake these tasks? How will individuals advance and gain practical experience in their roles? What is the impact on the economy, youth unemployment, and skills development.

While organisations such as Chocolate Tribe Animation Studios have explored the benefits of employing GenAI, noting its swiftness, precision, and cost-effectiveness, it is evident that the landscape of AI-driven tools is poised for expansion, exerting an increasingly profound influence on employment and training opportunities. Therefore, it is imperative for more research and engagement on understanding the implications of AI on youth skill development and career progression. Recognising the limitations of individual studios, collaborative efforts are essential. The imperative to upskill the workforce and adapt training methodologies to align with evolving job prospects cannot be overstated. While GenAI presents a myriad of advantages for animation studios, including heightened efficiency and productivity, there is a

pressing need to reassess strategies for bolstering industry capacity and facilitating entry-level opportunities for aspiring youth.

Conclusion

The Chocolate Tribe Animation Studios case study demonstrates the up and downsides of AI integration within the creative industries. As articulated by studio founder Nosipho Maketo-van den Bragt, the advent of AI heralds a future where repetitive tasks are increasingly automated, allowing for greater efficiency and productivity. However, the widespread adoption of GenAI tools poses significant challenges, particularly for entry-level workers who face the prospect of job consolidation, replacement, or elimination. This trend could have profound implications for youth development and employment opportunities, potentially exacerbating issues such as NEET youth. Moving forward, it is critical that the industry addresses these challenges, collectively, and mitigates for the negative impacts of AI integration, while also capitalising on the opportunities for innovation and growth. The key? Balance between technological advancement and human capital development, at the right speed.

From the above qualitative insights from the survey results and case study it is evident that AI is already impacting creative work and daily creative production. But already there are many resultant tensions surfacing. The first is quality versus quantity of both work and the creative workforce. AI can enhance productivity by generating a large volume of content or can process data more quickly than humans. This rids creative work of the mundane tasks. As one respondent said: *“I am able to write mundane things fast and get them over and done with so I can focus on other highly demanding and urgent things.”* However, in the past many mundane tasks were the site of training for more junior staff, who would now be excluded from that process, impacting the future job pipeline and contribute to unemployment. Who will do the creative work if there are no juniors to move up the pipeline? Who will also monitor the quality of creative work in the future, as current senior workers age out of the market? From a quality and originality perspective, this could also lead to questionable results as creative work augmented or automated by AI converges on the mediocre middle and become drab and pedestrian without human intervention. Respondents have already expressed frustration with the blandness and lack of uniqueness in AI-generated content. While AI offers valuable support for creative production, its integration into daily workflows brings complexities – and some unintended consequences. Balancing the benefits of AI-driven efficiency with the need for human creativity and occupation remains a critical consideration and task for policymakers and a responsive private sector.

5.2.2 Job displacement, skills development, and keeping pace with AI

The advent of AI presents a dual challenge and opportunity concerning job displacement, skills development, and the imperative to keep pace with technological advancements. According to the World Economic Forum, AI and ML will create 133 million new jobs while displacing 75 million (WEF, 2020). Many industries and institutions are ill-prepared for this disruption; and creative work is already the site of significant AI-impacted turmoil. Insights from the survey respondents shed light on the tensions inherent in this state of flux. A prevailing concern revolves around the displacement of traditional roles by AI-driven automation. Respondents expressed apprehension about the potential loss of employment opportunities, particularly for entry-level positions. As one respondent pointed out, *“AI is fine for those already settled in the industry, but it excludes newcomers”*. This underscores the need for strategies to mitigate job displacement and ensure inclusive growth and decent work in the era of AI.

However, not without irony, amidst these concerns lies the recognition of AI's role in skills development, training, re-skilling and upskilling. Some respondents highlighted AI as a valuable tool for learning and professional development, saying it offered opportunities to acquire new competencies and stay relevant in rapidly evolving industries. One respondent noted:

It's revolutionising the way things have always been done. Sometimes change can be good. It's progressive. Yes, it's scary and people fear it will take their jobs and override the skills they offer. But machines cannot replace the emotional, cultural, introspective and deeper substance of humans. AI and ML is not sentient. There are many myths and misinformation. Society progresses and changes. It's important to be open minded to understanding the nuances, pros & cons of this new AI digital revolution. Either ride the wave or get left behind and drown.

The pace of technological change poses a significant challenge for individuals and organisations alike. Respondents stressed the need for continuous learning and adaptation to keep pace with AI advancements. As one respondent put it, “*Understanding AI's current limitations helps us understand what our strengths are*”. Maintaining a nuanced understanding of AI capabilities and limitations is essential for navigating its impact on employment and skills development.

With the collaboration with technology many jobs will be merged, and the creative process could also be automated, potentially. This means it creative boundaries will be expanded and a creativity will improve because once we have more knowledge of things then we can create in different ways. For example, before we had projectors and now, we have LED screens. The creative process and understanding with having access to that kind of technology vastly improves.

Access to AI tools and resources is another major concern for the jobs market alongside ensuring equitable participation in the digital economy. Respondents highlighted the importance of addressing barriers such as cost and technical proficiency to enable broader adoption of AI technologies. One respondent underscored this by stating, “*The ease of access to the digital world should increase access to skills (transfer) and information sharing*”, and “*I feel like this will lower barriers of access for small business entrepreneurs*”, and “*I am using all I can (what is accessible), and I learn quicker*”. But as another stated: “*[AI] is here to stay for sure. But without good data accessibility and dealing with the digital divide AI will be biased to western ideas and inputs.*” The digital divide is a canyon in Africa, home to 33 of the world's 56 least developed countries (UNCTAD, 2021). Only 20% of people in LDCs use the internet, and when they do, it's typically at relatively low download speeds and with a relatively high price tag attached (UNCTAD, 2021). For poorer South Africans the case is virtually the same. It is hard to imagine a future embedded or augmented with AI when even basic internet coverage is patchy, unreliable and expensive in Africa. One respondent aptly put it:

Network hle! Yho! Hai khona (its not there)! Honestly! Somebody needs to do something about the speed of the internet. You don't even see the contribution AI makes because WOW! The internet is sooooo slow! Hai. It would be great also to have Tech Hubs in all 9 provinces. 18 in total, two in each province. One in the 'burbs and one in the hood. That way, everybody gets to be tech savvy and therefore open to embracing the AI era. A lot of us don't have access to electricity, and AI needs power to work. Load-shedding [rolling electricity black and brown-outs] is not helping in selling the idea of AI being a next level move for advancing us and upgrading most people's standard of living IF not for all. Most people would be open to AI but in poverty-stricken environments... it's gonna prove to be a bit difficult. Sigh. Eninzi (it's a lot).

The frustration is palpable – and the people and creative workers of South Africa understand the challenges of advancing an algorithmic age, because they live with them daily. The World Bank and the International Telecommunications Union note that despite improvements, in 2022, only 36 percent of Africa's population had broadband internet access (World Bank, 2023). Though mobile accessed internet is on the rise, broadband infrastructure reach, and the quality of available services, still lag other regions, and the divide is gendered. According to the International Telecommunication Union, Africa has one of the widest digital gender gaps (worldwide), with the greatest global disparity between men and women using the internet (35%) (ITU, 2021). In Africa it is difficult to keep pace with developments in the AI industry, because of pre-existing limits in infrastructure, access, jobs, skills, training and education. If Africa's complex challenges are not addressed, a pre-determined path for African engagement with AI as will become entrenched. This situation may relegate African AI users to the consumers of AI products and a source of data, rather than producers AI technologies, tools and applications. In this context it is easy to imagine a scenario of significant job displacement on the continent as some work is automated or augmented by AI and robotics; or simply the ongoing situation of few jobs or decent work at all. This is particularly pertinent for 540 million people who fall into the youth category in Africa – and are the continent's, and world's future consumers even though they risk lacking purchasing power (Mpemba and Munyati, 2023). Without a closed digital divide, lower data costs, more digital infrastructure, 4IR-ready education, on-the-job training and experience, it is hard to imagine scaled AI uptake. In South Africa the statistics indicate a 45,5% unemployment rate among young individuals (aged 15-34 years), in contrast to the national average of 32,9% in the first quarter of 2024, with only 9,8% of the employed youth emerging from the higher education sector as graduates (StatsSA, 2024). Without intervention, keeping pace with AI feels as though it impossible for the continent and South Africa and thus a rushed revolution rather than a holy grail.

Despite these challenges, Africa has demonstrated a remarkable capacity for leapfrogging traditional development pathways, particularly in the realm of fintech and agritech solutions tailored to local needs (Wheeler, 2017). This innovative spirit, coupled with a growing tech-savvy population, suggests a promising future for AI adoption on the continent (Aker and Mbiti, 2010), with caveats. AI's potential applications in Africa are vast, ranging from healthcare and education to agriculture and infrastructure. For instance, AI-powered tools could revolutionise healthcare delivery in remote areas, optimize crop yields in the face of climate change, and improve access to financial services for the unbanked (Marwala and Hurwitz, 2017). However, the widespread deployment of AI in Africa hinges on addressing critical issues such as data bias and the lack of representative African datasets. As highlighted in a report by the World Economic Forum (2020), the underrepresentation of African data in global datasets can lead to biased algorithms and perpetuate existing inequalities. A respondent, for example, said: *"I'm conscious of potential misinformation and biases in the source data and don't want to perpetuate that."* This can have far-reaching consequences, from misdiagnosis in healthcare to discriminatory practices in civic services, finance and employment. Therefore, it is imperative for African governments, researchers, and businesses to collaborate on building comprehensive and representative datasets that reflect the continent's diverse cultures, languages, and socio-economic realities and contribute to an African AI revolution. The CCIs would play a critical role in creating culturally sensitive works, campaigns, messages, software and experiences, among others, and this requires diversity of input and data.

In this context, and in regard of the CCIs specifically, and in the jobs and skills dimensions the tensions that are prevalent include those between automation and employment, the skills gap, and inclusivity and accessibility. The authors touch on these tensions in greater detail in the next few sub-sections.

5.2.2.1 Automation vs. Employment in the South African CCIs

A study by the World Economic Forum (2020) highlights that while AI can create new job opportunities, it is likely to result in significant job displacement, particularly in sectors that rely heavily on routine tasks. This is echoed in the South African context, where the CCIs face a potential reduction in demand for human labour in areas now increasingly served by AI. Moreover, the International Labour Organization (ILO, 2021) emphasises that automation can lead to job losses in sectors where workers are not prepared for the technological shift, making upskilling and reskilling crucial. Conversely, new jobs could and are likely to emerge, but a skilled workforce is needed to take advantage of such opportunities. This is currently lacking in South Africa and on the continent.

The South African CCIs, much like their global counterparts, are grappling with the potential for AI to automate tasks traditionally performed by humans. Automation poses a significant threat to employment, especially in roles that involve repetitive or easily replicable tasks such as graphic design, video editing, and basic content creation – as already illustrated above. Participants at the SACO Café AI workshop and survey respondents expressed concerns about the impact of AI on employment opportunities and the need for upskilling to remain competitive. The impact of this trend is particularly concerning in a country with high unemployment rates. The fear is that AI could exacerbate existing inequalities in the job market by displacing workers who lack advanced technical skills and cannot easily transition to new roles.

Then, there is the possibility – and economic conundrum – where mass uptake of AI software would displace the very consumers of such products over the long term and render them unable to support monthly or annual software purchases. In turn this would diminish the buying power needed to create and sustain economic growth, with a net negative outcome. Employment is a necessary condition for growth, social stability and government investment. In the AI era it is thus crucial that jobs are protected and people up/re-skilled. Creative workers are good candidates for programmatic support that mitigates against job displacement. Support for the CCIs could become a prototype for industry and sector wide responses.

5.2.2.2 Bridging the skills gap in the AI era

There is a tension between the rapid advancement of AI technology and the challenge of keeping pace with evolving skills requirements. Many of the SACO survey respondents highlighted the need for continuous skills development to harness the potential of AI effectively. As AI becomes more integrated into creative processes, there is a pressing need for workers to acquire new skills and adapt to AI-driven workflows, while also scaffolding existing skills – especially problem solving and creativity. However, many workers lack access to the necessary training and resources to bridge this gap, which puts them at a disadvantage in an increasingly competitive – and global – job market.

A McKinsey Global Institute report (2018) stressed the importance of continuous learning and adaptation to new technologies. Similarly, a SACO 2022 report on youth skills does the same in the context of the CCIs and calls for a major commitment to nurturing both digital skills and a suite of soft skills needed to adapt to the future (SACO, 2022c). In South Africa, initiatives such as the Digital Skills Academy and Harambee Youth Accelerator aim to address this gap by providing training in digital and AI-related skills. However, the scale of these efforts needs to be expanded to meet the growing demand for AI competencies across the CCIs. One respondent to the survey emphasised: *“It takes time to learn how to use these tools, so more training would be needed in a formal way”*.

Another said:

Look, it depends how much data the AI has. The bigger its database the more time goes on, the more it's able to learn. So, the breadth, depth and width of its capability lies in its data, learning and algorithms. I think there is a challenge with prompting. But this falls on a human, right? The power of AI also lies in knowing HOW to prompt what you want. How to speak to AI. How to get it to do what you want effectively and efficiently. If you want it to help you, you need to know how to ask it for help and how to remould and tweak it to generate great creative outputs. So, there's a lot of human learning to leverage its power.

A Deloitte (2020) report by underscores these issues pointing out that without adequate investment in education and training, the skills gap will continue to widen, leaving many workers ill-prepared for the future of work. There is also the necessity to nurture softer skills and more human skills (higher order and executive function) that cannot be mimicked by AI. This requires a whole of society approach is currently not enshrined in South African AI trade, skills, development planning or creative industries policy (see above Section 2 for legislative landscape).

5.2.2.3 Inclusivity and accessibility in the Age of AI

Concerns were also raised among respondents and workshop participants about the accessibility of AI tools and training opportunities, particularly for marginalised communities. There is a tension between the promise of AI for innovation and the risk of widening existing inequalities. Inclusivity and accessibility are critical issues in the adoption of AI within the South African CCIs. High costs associated with AI tools and training, coupled with limited access to reliable internet connectivity and digital infrastructure, pose significant barriers to broader AI adoption. This digital divide disproportionately affects marginalised communities, exacerbating existing inequalities and hindering their participation in the digital economy. The World Bank's (2022) broad broadband internet access figures above, highlight the severe limitations faced by many Africans and by extension South Africans. This lack of access not only limits individual career prospects but also constrains the potential for AI to drive innovation and economic growth across the CCIs. Those who have access and skills, will gain more capacity. Those who do not, will not, and risk being left behind. This potential gap requires policy intervention and protections.

To address these barriers, it is essential to improve digital infrastructure, make AI tools more affordable, and provide targeted training programs for marginalised groups. Government policies and private sector initiatives must come together deliberately to create an inclusive AI ecosystem that empower all segments of society. As emphasised by the African Development Bank (2020), creating a supportive environment for AI adoption involves addressing both technical and socio-economic challenges to ensure that the benefits of AI are equitably distributed.

To better understand the implications of this Cambrian moment, the authors conducted an interview with Greg Serandos, co-founder of the African Academy of Artificial Intelligence (AAAI). The academy helps organisations integrate AI into their strategy, operations, and products. He explores the wide-ranging issues and reflects on reading, experiences and interactions he has had at the dawn of the AI age, many of which have already been touched on above.

5.2.2.4 Interview 1: Predictions, trends, advertising and education in the AI age – Greg Serandos, CEO/ Director African Academy of Artificial Intelligence

The following interview conducted with Greg Serandos, African Academy of Artificial Intelligence (AAAI) tracks his various predictions, anticipated trends and the impact of AI on advertising and education in South Africa and beyond the nation's borders.

Background

The AAAI was established in 2022 and aims to empower Africans with technology and skills that enable them to leapfrog global competition. Mr. Serandos (CEO / Director and founder of AAAI), while acknowledging AI's current capabilities, emphasised the challenges in really predicting its future trajectory. He noted the inevitability of AI's improvement over time but highlighted uncertainties surrounding its evolution. Examples included advancements in AI-generated text surpassing those in design and video production. *"The writing is great. Design and video are far behind the written work in AI."* Furthermore, he raised concerns about AI's potential to violate IP legislation and regulatory rules, particularly concerning the incorporation of copyrighted material into AI models like ChatGPT.

Mr. Serandos expressed optimism about AI's potential to accelerate processes and enhance output quality across various domains like marketing, writing, design, and content creation. He cited specific examples, such as using ChatGPT to edit emails, conduct research, and improve productivity within shorter timeframes. *"Right now, I have been working 14-hour days, but I have been getting 24-hour productivity in those 14 hours, the reason is that I am using ChatGPT to edit emails, find research, etc. It doesn't do the work for me; it edits the work. I can make it finetune the work relevant to the audience."* Tools such as text-to-video, for example Sora, are perceived as tools that will put the filmmaker out of business, but in actual fact, they may give the directors more power and flexibility, he added.

He highlighted the potential for AI to revolutionise advertising by enabling customised and personalised campaigns that cater to individual preferences and contexts. Additionally, he emphasised the significant opportunity for small enterprises to leverage AI tools to streamline various tasks, potentially eliminating the need to outsource functions like editing, research, analytics, and insights. *"The biggest role will be customised and personalised advertising where adverts speak to your context, with more variety and specificity to your liking and situation."* In the context of small enterprises, a significant opportunity arises from the potential elimination of the requirement to contract out various tasks such as editing, research, analytics, and insights. Instead, internal personnel equipped with appropriate tools stands poised to effectively oversee and execute all these functions. This represents a game-changing opportunity for small businesses, he said.

Challenges in AI adoption

According to Mr. Serandos, there are several key challenges when it comes to AI adoption.

- **Copyright, IP, and data protection:** Mr. Serandos raised apprehensions about unauthorised use of copyrighted materials and potential breaches of IP rights. He cited examples of companies facing legal challenges for incorporating proprietary research and development (R&D) into AI models without proper consent or attribution. *"When one uses LLMs, even just for editing purposes, all the information shared on the tool goes into the training model and it becomes public information. An example of this is...[Samsung in Seoul](#)³⁶ put their R&D into ChatGPT and someone was able to prompt negative, or find the information, and take it. That is where IP protection is needed."* Another challenge is copyright material and the scraping of content from the internet. AI does not acknowledge where it gets its information from which is a huge challenge with regard to copyright infringements. *"The [New York Times is suing OpenAI](#) for this, and they will most likely win. Open AI is not saying they did not steal the material, they are saying that they are allowed to on a 'fair use' bases and therefore they will likely settle out of court."*

- **Ethics:** In the realm of generative AI, ethics emerges as a significant concern, particularly in educational settings. Mr. Serandos recounted a presentation to professors where cheating and plagiarism were identified as major concerns. The ease with which students could use AI tools to enhance their academic performance raised ethical dilemmas and highlighted the need for more effective plagiarism detection mechanisms. *“There was a case of a post-grad student using ChatGPT to write a thesis, and the references were just made up by ChatGPT. The information given via these models is not always accurate and must be checked thoroughly. The students had no idea what they had done wrong as they had asked ChatGPT for a list of references and they assumed these would be correct.”*
- **Bias:** Mr. Serandos pointed out biases inherent in AI models, citing examples of discrepancies between prompts and AI-generated outputs. He also raised concerns about the proliferation of deepfakes and manipulated content, which could erode trust in digital media. *“In the creative industries, the proliferation of copycatting, plagiarism, unoriginal material, and machine-generated content poses escalating challenges, exacerbated by the growing difficulty in discerning machine-generated content from human-created content. This trend is particularly alarming given the rise of deepfake technology, which enables the fabrication of videos depicting influential figures saying or doing things they never actually did. Deepfakes featuring prominent individuals have become increasingly prevalent. Additionally, a related ethical concern arises from the ability to manipulate videos to make it appear as though individuals are speaking in languages they do not actually speak, further complicating the landscape of digital deception and raising ethical questions regarding authenticity and trustworthiness.”*
- **Job loss:** Mr. Serandos anticipated significant job losses due to AI, or what he calls the “Greatest Disruption”, particularly in the knowledge economy. *“The primary implication for society at large is the occurrence of mass layoffs”.* He said governments worldwide, including those in South Africa and the United States, often lack understanding of these technological advancements. He anticipates a significant loss of employment opportunities, saying that while AI may revolutionise certain sectors, it cannot replace roles involving physical labour or specialised skills such as construction, plumbing, or delivery services. However, the impact of AI-induced job displacement primarily affects segments of the knowledge economy. He stressed the importance of comprehensive reskilling initiatives to prepare the workforce for the changing landscape and criticized South Africa's current approach as insufficient. *“The greatest disruptions from generative AI are already happening in the US with at least 100 of the 500 S&P companies having already announced mass layoffs [as of 1 March 2024]. Today, hiring managers are checking if generative AI could do the work before hiring replacement employees. This is different than mass layoffs, but could be a huge contributor to workforce reductions.”* Mr. Serandos highlighted the importance of implementing nationwide upskilling programs, citing examples of forward-thinking governments like those in Singapore, Rwanda, Kenya, and Botswana. He underscored the urgent need for reskilling efforts, warning of potential repercussions as early as 2025 if proactive measures are not taken. Notably, South Africa is depicted as lagging in addressing the issue of AI-related job displacement, with a predominant focus on the broader concept of the fourth industrial revolution and limited initiatives in the realm of reskilling.

Despite the many challenges, Mr. Serandos is positive about the productivity, efficiency and collaboration gains that AI and GenAI could bring.

Collaboration between AI and humans

Mr. Serandos provided examples of AI's role in augmenting human creativity and productivity, particularly in content creation and marketing. He emphasised the importance of maintaining originality while leveraging AI for tasks such as content repurposing and customization. For instance, AI tools like Microsoft

³⁶ <https://www.pcmag.com/news/samsung-software-engineers-busted-for-pasting-proprietary-code-into-chatgpt>

co-pilot were cited as enabling the generation content creation. He explained how the process followed is critical and original initial content must be used. Prior to the advent of generative AI, the standard practice in marketing departments of large corporations involved the creation of long-form content such as masterclasses, keynote speeches, lessons, reports, and research. Typically, external writers or researchers were hired for this task, with the resulting 2000-word report fetching a fee ranging from \$3000-\$4000 which was considered modest. However, the challenge lay in repurposing this lengthy content into various formats such as blogs, PowerPoint presentations, social media posts (involving elements of design and copyrighting), posters, and videos, a process that consumed considerable time and effort.

With the emergence of generative AI, although the initial long-form content still necessitates creation to avoid plagiarism and ensure originality, the subsequent transformation into diverse formats can be facilitated more efficiently. From the long-format material AI can create an e-book, you can ask the AI to create 10 blogs from the content, create 100 social media posts with some design work, schedule the social media posts, he said. The use of AI alongside original content makes it a very useful tool that saves time and resources while not having issues with plagiarism, data collection, and intellectual property. *“What we tell people is that everything you produce must be original. Only then you should you use AI a lot of the information required from the long-form research... The original information must be unique otherwise it is plagiarism or worse, machine generated. Machine generation and plagiarism both have their own set of problems.”*

During a recent encounter with a Chief Marketing Officer (CMO) from a prominent South African corporation, he found she oversees a team of 18 copywriters, all apprehensive about potential job displacement. With the potential for these writers to double their productivity through the adoption of AI tools, many companies may find themselves no longer requiring the output equivalent of a doubled team size, leading to the redundancy of half the existing workforce. Conversely, the designers' on the team expressed enthusiasm for the enhanced capabilities afforded by these tools, enabling them to accomplish more with fewer resources. This newfound capacity facilitates the creation of highly personalised, context-driven content, fostering greater creativity and diversity in their output. As a result, designers are unlikely to face job losses; rather, they are empowered to perform their roles more effectively.

Misconceptions within the CCIs

On creatives, Mr Serandos said: *“In the domain of design, a prevalent misconception arises regarding the efficacy of generative AI tools. These tools, particularly those facilitating text-to-design or video creation, are often perceived as gimmicky due to their tendency to adhere closely to specific prompts, rather than manifesting genuine creative ingenuity. The question arises whether such tools truly contribute value to the creative process. Despite their proliferation, many of these tools yield results that are eccentric or incongruous, as exemplified by the outcomes of Gemini 1.5 when subjected to various prompts. The prevailing misconception suggests that AI has the capacity to augment creativity and enhance creative outputs.”*

However, contrary to this belief, the advent of AI underscores the increasing premium placed on original ideas and creativity within creative industries. *“AI cannot supplant human creativity; instead, original thought remains paramount. Moreover, as the trustworthiness of digital content diminishes due to factors such as deepfakes, lack of originality, and intellectual property infringement, there is a growing appreciation for human connection, personal interaction, and face-to-face communication. This phenomenon parallels a return to the internet's early days, underscoring the enduring value of authentic human engagement. While the advent of AI may bring about positive transformations in creative endeavours, its associated risks and drawbacks are relatively inconsequential for individual creatives.”*

Policy implications

Mr. Serandos underscored the necessity of strong regulatory frameworks to govern AI usage, citing the European AI Act. He also underlined the importance of reskilling initiatives to mitigate AI-induced job losses and highlighted the challenges in implementing effective policies. *“A big shift that is going to happen within the next year or two is that the AI won't be coming from a data centre, it will be coming from a Small*

Language Model which in essence means the chip will be in your phone. So how do you legislate a billion devices? It is going to be very, very difficult, this is a big challenge.”

Mr. Serandos addressed misconceptions about AI in the creative industries, particularly the notion that AI tools can replace human creativity. He emphasised that AI is a tool to *augment creativity, not replace it*, and that original thought remains paramount. The insights shared by Mr. Serandos highlight the complex and multifaceted impact of AI on South Africa. Addressing these challenges will require a collaborative effort from all for the benefit of all.

5.2.3 How to turn disadvantage into advantage: Local value made global, IP protected?

Amidst concerns about copyright, intellectual property, and the global reach of AI, there emerges a narrative of transforming challenges into opportunities, particularly in harnessing local value on a global scale while safeguarding intellectual property (IP) rights. This dynamic is especially pertinent in the South African context, where the need to protect cultural heritage and diversity while engaging with global markets is pronounced. Participants in the SACO dipstick survey were specifically asked whether they were concerned about intellectual property, copyright protection, plagiarism, remuneration, and fair use in the context of AI? Their responses provide valuable insights into the tensions between globalisation and localisation, as well as the imperative of equitable IP protection.

The survey responses reflect a nuanced tension between leveraging AI to amplify local creativity on a global scale and the risk of homogenising cultural expression. A diversity of stories, and African and South African experiences is vital to diversity of datasets and the appropriate contextual use cases of AI, respondents said. They emphasised the importance ensuring African voice and share of voice (a presence and a more equitable presence) in AI systems, datasets, and use cases. This is particularly significant for South African creative workers, whose work often embodies rich, unique cultural narratives. AI can support the democratisation of access of these narratives into global markets, making diverse voices and narratives more accessible worldwide. But there needs to be a matching compensation system, respondents said.

As a result, there is a tension between promoting global recognition of local creative output and ensuring equitable IP protection for creators. Survey respondents and workshop participants advocated for strong measures to safeguard IP rights and ensure fair compensation, particularly in the context of AI-generated content. Concerns about unauthorised use of copyrighted material were prevalent, with calls for stringent measures to protect creators' rights. One respondent highlighted this issue by stating, *“Creators whose work has been used to train models should be remunerated”*. But there needs to be balance. AI can be used as a tool for showcasing diverse voices but also the technology can be deployed to also ensure that these voices are protected and fairly compensated. One participant suggested. *“The more ideas worth protecting we have, the better for us... we gain more than we lose because we are now working with the international market.”*

Ultimately, transforming disadvantages into advantages requires balancing innovation with ethical considerations. By using AI to amplify local value on a global scale while prioritising IP protection, stakeholders can cultivate a creative ecosystem that celebrates diversity, nurtures innovation, and ensures equitable opportunities for creators worldwide. Achieving this balance involves a combination of legal frameworks, educational initiatives, and collaborative partnerships between creators, AI developers, and policymakers. The below sub-sections explore thematic tensions from the survey and workshop and present a synthesis of these in relation to IP concerns.

5.2.3.1 Synthesis of survey insights on IP Concerns

The survey responses overwhelmingly indicate widespread concern regarding intellectual property rights, copyright protection, plagiarism, remuneration, and fair use in the context of AI within the South African creative industries. Several key themes emerged from the responses and are covered below.

5.2.3.1.1 Intellectual property, copyright protection, and plagiarism

The survey responses indicate a noteworthy concern among participants regarding intellectual property, copyright protection, and plagiarism in the context of AI use in the CCIs. The consensus is that there is a pressing need for legislation to address these issues, as current laws are inadequate to handle the complexities introduced by AI technologies. Responding to the question “Are you concerned about intellectual property, copyright protection, plagiarism, remuneration, and fair use in the context of AI?” one respondent gave an emphatic: “Yes, since there is no legislation to govern this”. Similarly, another argued: “AI should not infringe on any IP/Copyright through plagiarism and having the people who feed it that IP get away with it because the laws around AI usage are currently being fleshed out.” Another said: “Generating content with AI that doesn’t clearly define its sources is problematic with regards to plagiarism and limits the use of AI-generated content”. One more added: “I think that copyright laws for instance has been lagging quite far behind technology and that certainly is a problem. The same goes for intellectual property - it is very hard to distinguish between AI ideas and stolen ideas”.

On the issue of compensation one respondent questioned their ability to claim or the opportunity to be paid fairly. “With AI scraping the internet, what are the chances that I would be remunerated for my work if it was picked up and used for commercial gain by a third party?”. Another argued:

Intellectual property is super important because if you are not protected someone will claim your idea as theirs. AI is money driven. In SA specifically, we don't really have a lot of AI products that we can export for a significant amount of money so that we can add to the growing economy. The more ideas worth protecting we have, the better for us because that means we get to manufacture and export which means we gain more than we lose because we are now working with the international market which is already ahead when it comes to their understanding and use of AI.

Respondents expressed that AI tools often use elements of existing works, leading to unauthorized use and potential copyright infringement. They emphasise the need for clear guidelines and legislation to ensure that original creators are compensated, and that AI-generated content is appropriately regulated.

5.2.3.1.2 Remuneration and fair use

The issue of fair remuneration for artists and creators is a significant commercial concern. Participants feel that current frameworks are only relevant in certain jurisdictions such as the EU and US and do not adequately ensure that creators are compensated when their works are used to train AI models or when AI-generated content is derived from their original works. One respondent said “AI still uses elements of the work of real people. They must be compensated fairly”. Another said: “Who gets to own what? When it can generate/plagiarise art/content that is found on the internet of someone else who published it a long time ago?”. Yet another indicated: “Creative work should be attributed/cited but that is in large part the creator's responsibility in case they draw from a specific artist/creator's work. Creators whose work has been used to train models should be remunerated.”

There was a call for policies that hold corporations – especially Big Tech and users of AI, where necessary – accountable and ensure that creators receive fair payment. This includes not only

traditional forms of creative work but also newer forms of digital and AI-generated and augmented content. One respondent underscored a running concern globally, *“I think the technology is adapting much faster than legislation”*. Another said: *“We absolutely need basic structures to hold corporations accountable in the AI space”*. Another insight was:

My understanding is that a lot of the current systems are built on scraped data of the internet. Looking at current international lawsuits against some of the AI companies it is clear to me that they wilfully ignored fair use and ignored copyright protection. This not only shows to me that my work is not protected but also that any work I was to do with AI e.g. Midjourney would be unable to be afforded copyright protection.

Another raised issued with the South African Copyright Amendment Bill: *“I am especially with the copying amendment bill being passed for ‘fair use; which means composers works will be used without their consent”*. This speed and the concerns around it are an indicator that AI is more of a rushed revolution for some. Conversely, one respondent indicated: *“I am a Masters student in cyberlaw. The law is as good now as it ever was”*. This interesting anecdote points to an interesting idea that even amid the rush, regulation is attempting to keep pace, although not equally everywhere. Overall participants overwhelmingly call for stricter regulations and policies to govern the use of AI in creative industries. *“Setting boundaries for protection is always key”*. The development and enforcement of comprehensive AI regulations are seen as essential to protect creators’ rights and ensure ethical use of AI technologies.

In addition, respondents also highlighted the significant skills gap that exists in adapting to AI technologies and providing targeted training programs to underrepresented groups in the creative industries. They underscored the necessity for continuous skills development and training to remain competitive in the creative industries. *“I’m not as clued up on IP, remuneration and fair use as I should be but there are a vast number of issues here that need to be considered when it comes to the usage of AI”* said one. Another said: *“AI takes without asking. Personal creativity goes out”*.

Compensation and credit debates are happening industry wide. In South Africa, a non-profit, Electric South is exploring conversations around consent, control, credit and fair pay. The below interview with Ms. Ingrid Kopp, co-director of Electric South provides an interesting insight into the challenges.

5.2.3.2 Interview 2: Tacking the Big 4 – Consent, Credit, Compensation and Control – Ms. Ingrid Kopp, Electric South

Ingrid Kopp is co-director of Electric South, a non-profit company based in Cape Town, South Africa, providing mentorship, production services, funding and exhibition for a network of artists across Africa. Electric South enables them to explore their worlds through immersive, interactive stories including virtual and augmented reality, and other digital media.

She has worked at the intersection of film, virtual reality and festivals and technology for most of her career in London, New York and Cape Town, including for the Tribeca Film Institute, before joining Electric South. While not an AI expert, she recognizes the need to explore the ethical and practical dimensions of AI adoption in Africa, particularly in ensuring representation and preventing extractive practices. Since the arrival of consumer level AI and generative AI, Electric South applied for funding to address AI at the New Dimensions Lab in 2023. Looking at its impact and usage across creative projects on the continent. Along the journey it has encountered several of the big challenges both creative workers and entire industries face when embracing AI. The reflections in this interview are based on insights garnered by Ms. Kopp at an Electric South AI workshop hosted during the New Dimensions Lab with African artists.

While positive about the overall direction of AI, Ms. Kopp argues that AI is ubiquitous in a different way to the way it's been perceived by society. *"AI is not a tool or one technology. AI is a field of study, and it includes multiple things, right? It's lots of tools, lots of approaches, lots of technologies. Some of them are doing amazing things, and they're useful, and they're going to make our lives better. Some of them, I think, are potentially dangerous. But to say AI is good or AI is bad, that's just really unhelpful because AI isn't one thing. That's what I was really trying to get across in the lab,"* she said underscoring the fact that people need to get the language around AI right to describe it accurately, use it properly and also ensure ethical and policy dimensions are properly addressed.

Ms. Kopp identified four key areas where artists and those serving artists need to focus on protecting and futureproofing themselves against AI – many of which fall into the copyright-ethical-intellectual property dimensions. She stressed the need for legislation to protect creatives from data scraping and ensure consent, credit, and compensation for their work, as well as control. To this end, she argues that it is important to focus on ensuring:

- consent – informed consent should be in place for information sharing, data scraping, and IP and content usage;
- credit is given when content or IP is used;
- compensation structures are in place when artists or creatives work is used in training models, LLMs or generative AI processes;
- control is embedded across the AI technologies – empowering all users and data/content providers to control how they experience, influence and contribute to AI.

Ms Kopp highlighted a few areas where it was important to pay attention to the impact of AI on African artists.

AI in the Cultural and Creative Industries

- **Ethical considerations in AI and regulation**

One of the central challenges discussed in the interview is the tension between representation and extractivism in AI development. Ms. Kopp highlights the lack of African representation in AI models and the risk of exploitation of artists' work and indigenous knowledge, and the need for regulations and safeguards to protect artists' rights and cultural heritage. Ms. Kopp emphasised that bias is not exclusive to any region; rather, it's inherent in the systems due to human influence. She cited examples of racial profiling and sexism perpetuated by AI, stressing the need for proactive measures to address these issues.

On representation and bias, Ms. Kopp spoke at length about the fact that *"AI is biased because humans are biased"* and that bias was an embedded phenomenon affecting everyone, mainly because models are trained by humans and thus bias is present. There is also the possibility of an extractive practice in relation to African culture and languages. She stressed the importance of regulation and legislation to prevent exploitation, advocating for international and local laws to govern AI practices. Ms. Kopp also highlighted the need for artists to have control and compensation for the use of their work.

She emphasised that the ethical challenges of AI use, particularly the bias and ethical considerations, need to be addressed through policy changes and legislation. She also highlighted the myths about AI in the cultural and creative industries, emphasising that AI is not a single tool but a field of study with various methods and technologies, some of which are beneficial while others may be potentially problematic as indicated above.

- **African problems are maybe not problems per se**

The potential of AI to enhance creativity, democratise access to creative tools and economic opportunities in Africa is significant, according to Ms Kopp, but one needs to acknowledge concerns about job

displacement and the commodification of artistic expression and address the need for meaningful connectivity and equitable access to technology.

In Africa, the uptake of AI is constrained by many complex, interlocked challenges: access to internet, data and devices; training and experience; affordability and relevance to context. Similarly, AI services and LLMs also don't reflect African languages, stories, contexts, problems, and experiences – in part because of a lack of data to scrape, presenting a conundrum: does Africa produce more data to train LLMs and the like while risking the downsides of unprotected data usage?

What does trustworthy and ethical AI look like in Africa? And what does it look like for artists?," she asks. "Africa often is not represented [in current generative AI]. For example on DALL-E, if you ask it to create an image of a rondavel on a beach, it doesn't know what a rondavel is! Because obviously it hadn't scraped that part of the internet or that part of the internet was deficient. We're not represented, but the flip side of that obviously is also that by being represented, you're kind of being scraped.

Dealing with these concerns is a key area where Africans and especially African content creators can exert some early influence in conjunction with governments and policymakers because new IP can be produced with potentially new protections in place. *"The big thing that came up for us is how do we make sure we're represented but how do we make sure it's not extractive and that it's not, you know, scraping artists' work or scraping languages and then not giving anything back."*

In parallel, the workplace disruptions anticipated in the age of AI paradoxically do not affect Africa necessarily in the same way as the rest of the world. In Africa unemployment is already staggering and informality and gigging is a way of life.

While the downside of this is that *"shit flows downstream"* or that bad jobs are more likely to be outsourced to developing or African nations, said Ms. Kopp, citing the Kenya example of social media moderators exposed to traumatic content as moderators.

From an African viewpoint, that whole, 'they're going to steal our jobs' question, actually looks a little bit different because we don't have a lot of jobs, or the same kinds of jobs. We certainly don't have a lot of the jobs that folks who are sitting in Silicon Valley are referring to. It's not that full-time jobs have been lost at the expense of gig, something else is happening. Still, given the way global capitalism works, like a lot of those jobs that do end up here are the worst jobs, like those moderators in Kenya who were just having to look at the most horrific images in order to make sure that the AI wasn't, you know, showing those images to users or like scraping, like, you know, child pornography or whatever. AI still needs human helpers, and the worst jobs often are the jobs that go to Africa or other parts of the majority world.

Essentially, the tensions at play in Africa are very different, even when operating in a globalized context. However, as Ms. Kopp notes, *"without internet, you can't do any of this. And the internet has to be good"* the essential requirement for digital inclusion is good internet and access to stable electricity and the appropriate devices. The goal, she says, alongside ethical and fair representation is also *"meaningful connectivity rather than just connectivity"* in the African context.

- **"AI is great and all, but the soul matters"**

As AI technologies evolve, Ms. Kopp advocates for a human-centric approach that prioritises ethical considerations and preserves the authenticity of artistic processes. She emphasised the importance of maintaining human agency in creative endeavours and the potential risks of overreliance on AI-generated content. She shared her personal use of AI for administrative tasks and research such as ChatGPT, and highlighted the use of AI tools by artists affiliated with Electric South – but she cautioned that AI's outputs, at least for now, could lack depth and soul and that's because the process (of producing art) add depth to the resulting products that AI cannot mimic *"I just think the results are gonna feel like they're missing the process..."*.

She expressed hope that AI will free up time for human creativity, but also raised concerns about the impact of AI on creative processes and historical accuracy. *“It’s going to change our knowledge, and a lot of it might not be accurate. Instead of taking the tedium out of the tedious stuff, it’s trying to put the art into the arty stuff, and it’s the wrong way around. In an ideal world, what AI will do is help us to do the tedious tasks and leave us, you know, with more time to do the other stuff, so the human stuff.”*

Participants of the Lab recognised the potential of AI in the creative economy but also the need for policy and regulation to navigate the AI step change. However, Ms. Kopp noted that while more cross industry collaboration was needed, she was anxious that many policymakers have no idea about AI and do not understand how to govern and regulate it. *“If you’re in policy or government, you need to understand [how to make good decisions and discern between good AI applications and bad ones], right? Because you do need to know enough to be able to regulate. What I worry about is that people in power often don’t [know] - like they know less than I do. And that freaks me out.”*

Conclusion

The interview with Ingrid Kopp from Electric South sheds light on the complex intersection of AI technology and the CCIS in Africa. She offers valuable insights into the challenges and opportunities presented by AI adoption in artistic endeavours. Kopp emphasised the nuanced nature of AI, debunking the myth of AI as a monolithic entity and highlighting its multifaceted applications. She stressed the importance of accurate language and ethical considerations in discussing AI, advocating for informed consent, credit, compensation, and control for artists and creators. Ms. Kopp called for regulations and safeguards to protect artists’ rights and cultural heritage while acknowledging the need for meaningful connectivity and equitable access to technology. She noted the irreplaceable role of human agency and creativity in artistic processes. She called for increased awareness and education to empower policymakers to make informed decisions about AI governance and regulation; and the need for a nuanced understanding of AI’s impact on artistic practices and the importance of safeguarding cultural diversity and ethical principles in an AI-driven world.

As indicated in the above interview, and in survey responses, the need for education and training programmes to help individuals understand and effectively use AI tools is crucial – specially policymakers. There is an emphasis on the importance of digital literacy to help creative workers and policy-makers able to adequately protect intellectual property. Concerns around inclusivity and accessibility are also prevalent, particularly in ensuring that marginalised communities have access to AI tools and training opportunities. Participants worried that the digital divide could exacerbate existing inequalities, limiting the potential benefits of AI to a privileged few. Respondents overwhelmingly called for stricter regulations and policies to govern the use of AI in CCIs. They believe that without robust legal frameworks, issues such as IP theft, unfair remuneration, and ethical misuse of AI will continue to proliferate. Similarly, participants highlighted the need for ethical guidelines and regulatory frameworks to address bias in AI-generated content.

In summary, grappling with copyright, IP, ownership, and bias represents a formidable challenge in the AI era. Balancing the need to protect creators’ rights while nurturing innovation and accessibility requires collaborative efforts from policymakers, industry stakeholders, and technology developers. By addressing these tensions head-on and implementing stable safeguards, stakeholders can cultivate an environment conducive to ethical and responsible AI-driven creativity. The next sub-section explores what the overall tensions are and summarises the above discussion. It is followed by a set of policy recommendations in Section 6 which provide a framework for approaching how to the impact of AI on the CCIs.

5.3 Insight: Tensions remain, tasks lie ahead

The above section discusses the rise of AI in the South African CCIs and the tensions it presents. It explores the balance between human creativity and machine intervention, the power struggles between artistic agency and policy regulation, speed of innovation and the ethical considerations in the algorithmic age. In this section, the authors have argued that there is fundamentally a tension between speed (rushing the revolution and its ethical and other unintended impacts) and slowness. We have underscored moments and areas where AI's deployment could offer a possible "holy grail" for different CCIs. There is a strong call emerging in South Africa amid creative workers for a set of policy interventions to ensure equitable distribution of AI benefits and mitigate against potential harms. We highlighted the impact of AI on daily creative production, including the benefits of streamlining certain tasks and the challenges of AI's limitations and ethical implications. The case study of Chocolate Tribe Animation Studios illustrated the transformative impact of AI on workflows and the concerns related to workforce and entry-level positions.

The section also explored the challenges and opportunities presented by AI in the context of jobs displacement, skills development, and inclusivity in the CCIs, with a focus on the South African perspective. The authors discussed the tensions between AI automation and employment, the need for continuous skills development, and the importance of inclusivity and accessibility in the age of AI. Insights from an interview with the founder of the AAAI provided clear examples of the need for re-skilling amid job displacement.

The ethical considerations surrounding copyright, intellectual property, and bias in AI were embedded across all discussions and inputs and emerged as cross-cutting issues for all creative workers and work. As a result, there is a responding call for regulations and safeguards to protect creators' rights. This call was endorsed by the non-profit, Eclectic South, and its cohort of creative workers in a workshop they hosted. While AI can amplify local value on a global scale there is a resultant pressure to safeguard intellectual property rights, and employ the right interventions toward protected local content, and local LLMs and systems.

This section presented a qualitative synthesis of views, case studies and interviews conducted as part of the primary research process for this report, and their allocation against different tensions. The tensions in effect generate the task-list for all stakeholders to grapple with and approach the AI-era in service of creativity, creative workers and work. In summary, the tensions include the following 13 tension areas.

Table 6: 13 key tensions emerging for the CCIs in the AI era. Generated with the support of ChatGPT.

Tension area	Opposing forces	Description
1. Innovation vs. inequality	Promise of AI for innovation vs. Risk of widening inequalities	AI has the potential to drive significant innovation in the creative industries, yet there is a risk that it could exacerbate existing inequalities, especially between the Global North and Global South.
2. IP protection vs. enforcement	Need for strong IP protection vs. Challenge of effective enforcement	There is a critical need to protect intellectual property in the context of AI-generated content. However, enforcing IP laws, particularly in the case of AI-generated works, remains a significant challenge.
3. Representation vs. extractivism	Equitable representation in AI development vs. Risk of data extractivism	AI development needs to represent diverse voices and cultures equitably. However, there is a risk of data extractivism, where AI exploits creative content from marginalized groups without fair compensation or consent.

4. Bias mitigation vs. embedded AI bias	Ethical AI development vs. Perpetuation of biases	While AI can be developed with ethical guidelines to mitigate biases, there is a tension in that AI systems often perpetuate existing biases found in training data, leading to unfair outcomes.
5. Globalisation vs. localisation	Global AI models vs. Cultural Diversity and Localization	Global AI models often standardize processes and outputs, which can clash with the need for cultural diversity and the localization of AI to reflect the unique cultural contexts of different regions.
6. AI automation vs. employment	Increased efficiency and automation through AI vs. Job displacement and economic Impacts	AI can automate many tasks, improving efficiency. However, this automation could lead to job displacement, especially in creative industries, with significant economic and social consequences.
7. Creativity vs. automation	AI as a tool to enhance creativity vs. AI threat to supplant human creativity	While AI can serve as a powerful tool to enhance and complement human creativity, there is a fear that it could replace human creativity, leading to a loss of unique creative expression or worse, generic content loops.
8. Speed vs. ethical caution	Rapid AI deployment and innovation vs. Need for ethical caution and regulation	The fast pace of AI development and deployment often prioritizes speed over ethical considerations. There is a tension between the desire to innovate quickly and the need to ensure responsible, ethical AI practices.
9. Human agency vs. AI control	Preserving human control and agency vs. AI Gaining Greater Control	As AI systems become more advanced, there is a growing tension between maintaining human control and agency over creative processes versus AI taking over more decision-making roles, potentially reducing human autonomy.
10. Inclusivity vs. access barriers	Ensuring inclusivity and equal access vs. Barriers to AI access (resources, skills, infrastructure etc.)	AI should be inclusive, providing equal opportunities for all. However, access to AI tools, resources, infrastructure, data, and skills is often limited, especially in marginalised communities, creating barriers to full participation.
11. Productivity/ efficiency vs. quality output	Increased productivity and efficiency with AI vs. Potential decline in quality of creative output	AI can significantly enhance productivity and efficiency in creative processes, but there is a concern that this might lead to a decline in the quality of creative output, as AI-generated content may lack depth or originality.
12. Past vs. future	Preserving traditional practices, ways of working and cultural heritage vs. Embracing AI for future Innovation	There is a tension between preserving the past—traditional practices and cultural heritage, and ways of working—and embracing the future by integrating AI into the creative process. Balancing respect for the past with innovation is critical.
13. Power vs. policy	Who wields power (tech companies, AI developers) and who does not have power vs. Who makes policy (governments, regulators, multilateral institutions), and who can influence policy	This tension arises from the imbalance between the power held by tech companies and AI developers who create and control AI systems, and the policymakers and regulators who are responsible for ensuring fair and ethical AI deployment; and the users who support software companies, but do not have agency in the algorithm.

As the CCIs navigate the AI revolution, collaboration, dialogue, and proactive measures are crucial for shaping a future where AI empowers, rather than restricts, creative expression. By addressing the tensions and complexities inherent in AI integration, South Africa can leverage AI's potential to propel its CCIs onto the world stage while protecting the rights and livelihoods of its creative community. Overall, the research shows that the industry is calling for a balanced approach that leverages the benefits of AI while addressing the ethical and regulatory challenges it presents – or to pursue the ‘holy grail’ with precautions in place.

6 An AI ready future? Recommendations and policy advisory

The tensions of the AI-era (see Table 6) are a site for policymaking and building preparedness. To ensure AI integration in the CCIs is done with the right safeguards in place to protect creativity itself, creative workers and the works they produce, this section details the types of policy interventions needed and makes recommendation for doing so. The recommendations and policy advisory presented cover both the generic (across society) and the specific (within the CCIs). They look at actions the South African government can take generally to support the ushering in of the AI era, with the appropriate guardrails in place. They also cover specific interventions that can be applied to AI in the CCIs. The recommended interventions include establishing and updating regulatory frameworks, reskilling initiatives, addressing inclusivity and accessibility, encouraging collaboration between AI and humans, promoting ethical considerations, protecting intellectual property and bringing clarity to ownership issues, ensuring human control and accountability, addressing fair use and copyright laws, regulating AI development, promoting transparency and informed consent, and promoting dialogue. These interventions aim to maximise the benefits of AI while mitigating risks, promoting inclusivity, accessibility, and creativity in the CCIs.

The authors also propose a phased approach or roll-out of recommendations and the inclusion of these suggestions into the current draft national framework and discussion documents on AI; and suggest areas for future research.

6.1 The CCI protection-innovation-renumeration continuum

The rapid evolution of AI technologies in the CCIs necessitates greater regulation and control, particularly in Africa, where digital infrastructure, legal protections, and digital literacy often lag global standards. Current African regulatory frameworks, while acknowledging the potential of AI, are nascent and need to still evolve to address the specific needs and vulnerabilities of the CCIs. Within this continental context, South Africa is well-positioned to lead the continent's response to AI's impact, not only across various industries but particularly within the CCIs putting it in a unique diplomatic position.

As a signatory to the UNESCO *Recommendation on the Ethics of Artificial Intelligence* and with foundational documents such as the draft National AI discussion document (DCDT, 2024a) and the recently published AI Policy Framework (DCDT, 2024b), South Africa has the basis for developing AI policies that align with international standards. These policies can set a benchmark for regional and continent-wide AI governance. While the African Union's *Continental Artificial Intelligence Strategy* (AU, 2024b) serves as a general guide, South Africa could further distinguish itself by zeroing in on the CCIs. By developing ‘protection-innovation-remuneration’ focused standards and policy frameworks specifically for the CCIs, South Africa could create actionable case studies and real-world programmes that could be adapted for other industries navigating AI disruption. The insights gained from the CCIs can serve as valuable precedents for other sectors, ensuring that South Africa's approach to AI is both comprehensive and forward-looking.

The key to this strategy lies in cultivating a regulatory environment that advances innovation while safeguarding creators' rights, protecting consumers, and ensuring ethical and equitable use of AI in the CCIs. South Africa, inspired the EU AI Act and UNESCO guidelines, could focus on seven key areas which would ultimately protect the CCIs absorbing AI into their workflows and creative processes, support innovation and ensure fair compensation. The authors call this a '*protection-innovation-remuneration continuum*' and propose it as the primary model for policy decision-making. The continuum allows for the balancing the disruptive potential of AI in the CCIs with its innovative possibilities. The 'CCI Protection-Innovation-Remuneration Continuum' offers a structured model for legislative, regulatory, and policy decision-making.

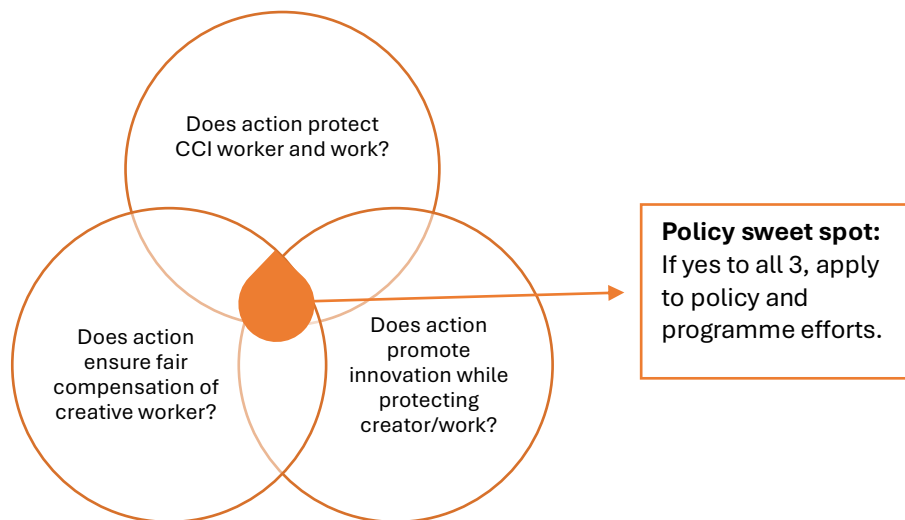


Figure 20: SACO Protection-Innovation-Remuneration Continuum model for policy decision-making in AI era.

When applying this continuum, policymakers should consider asking three fundamental questions:

1. Does the action protect both the creative worker and the integrity of their work?
2. Does the action promote innovation while still safeguarding the rights and interests of the creative worker and their creations?
3. Does the action ensure that the creative worker receives fair and equitable compensation for their work, whether it is original or enhanced by AI?

While the specific dynamics and definitions of this continuum are still being developed, it provides an early framework for policymaking that prioritises the success of the CCIs and the well-being of creative workers. This approach ensures that innovation is not stifled, but rather aligned with the ethical distribution of benefits in the AI era, ensuring that creative workers are both protected and fairly compensated. Implementing this continuum could position South Africa as a global leader in AI governance within the CCIs, creating a safe haven for creative workers across the continent or wanting to establish here. However, achieving this requires adapting existing laws, such as POPIA, Copyright Amendment Bill, CPA, the ECT Act, and IP laws, to address the unique challenges posed by AI in the CCIs. Underpinning the Continuum are 7 crucial policy actions (see Figure 20 for more detail) the South African Government should consider immediately:

1. **Leading regional responses:** South Africa should establish itself as a leader in regional and continental AI governance, particularly within the CCIs. This includes engaging with regional blocs like BRICS and SADC, and leading discussions on AI within the AU to ensure that the African perspective is represented in global AI discourse.

2. **Establishing ownership onus:** Clear definitions and enforcement mechanisms for AI-generated or AI-augmented content are essential. This includes protecting intellectual property, defining copyright infringement in the context of AI, and ensuring fair licensing practices that favour creative workers.
3. **Breaking bias:** Implementing comprehensive campaigns to identify and mitigate AI-related biases is crucial. This involves incentivizing local software companies to develop AI that reflects the diversity of voices, experiences, languages, and cultural contexts in Africa.
4. **Investing in innovation:** South Africa should fund and incentivise AI-driven innovations that address specific issues within the CCIs. This includes creating innovation hubs where creative workers and AI developers can collaborate on new forms of creativity and software, thus ensuring that local culture and creativity thrive in the AI era.
5. **Guarding jobs:** Developing standards to protect creative workers from AI-driven job displacement is imperative. This could involve establishing minimum wage laws for creative work, even when AI is involved, and ensuring fair compensation and social protection for freelancers and gig workers, who are most vulnerable to AI disruptions.
6. **Normalising remuneration standards:** There should be a focus on creating policies that encourage equitable remuneration for creative workers. This includes supporting innovation for tools to track, register, and enforce IP or copyright breaches, and distribute fair pay for both original and AI-augmented works.
7. **Pilot and pivot:** South Africa should establish a task force to regularly assess AI's impact on the CCIs, including its effects on employment, creativity, and innovation. This body could recommend policy adjustments as AI technology evolves and implement pilot projects to test new AI regulations and practices within the creative sector. These projects can provide valuable insights before broader implementation.

Additionally, South Africa should lead the continent in establishing specific ethical guidelines for AI use in the CCIs, ensuring responsible and fair application of this technology. Investment in education and skills development is also critical. By legislating and funding programmes that equip creators, businesses, and policymakers with the knowledge to navigate the AI landscape effectively, South Africa can ensure that its CCIs remain competitive and innovative in the AI era; and supportive of the African CCI ecosystem. Beyond these actions/interventions, the report authors propose a suite of additional policy recommendations, both general and specific to the CCIs, to further safeguard the sector against the disruptive impacts of AI while maximising its innovative potential.

Regional response	Ownership onus	Break bias	Invest in innovation	Guard jobs	Normalise remuneration	Pilot and pivot
Establishing regional (such as BRICS, SADC, and other regional blocs) and continental working groups to respond to critical matters arising in the algorithmic age that impact the CCIs directly. South Africa could also play a leading role in ensuring the AU's Continental Artificial Intelligence Strategy unlocks the potential of the new digital technologies delivered by the digital CCIs.	Focusing on copyright and IP issues by clearly outlining, defining or determining ownership of AI-generated or augmented content, documenting ways to enforce copyright infringement cases, and ensure fair licensing practices are more clearly defined in favour of creative workers.	Running a comprehensive campaign and enforce penalties for misconduct in the realm of misinformation and bias. Incentivising African or South African software companies to create software that identifies bias, cultural appropriation and mitigates against it through diversity of voices, experiences, languages and cultural impact. Promote and fund AI applications that enhance the production and distribution of local content, ensuring that South African culture and creativity thrive in the AI era.	Incentivising and funding innovators to respond to specific issues of the CCIs on the continent and develop tools, processes and software to support them. This could take place in innovation hubs where creative workers and AI developers can collaborate on projects, share knowledge, and experiment with new forms of creativity and software. Hubs could also be incubators for startups at the intersection of AI and creativity.	Develop standards to protect creative workers from job displacement due to AI. This might involve establishing minimum wage laws for creative work, even when AI is involved in the production process. Create policies that ensure fair compensation and social protection for freelancers and gig workers in the creative industry, who may be most vulnerable to AI-driven disruptions.	Create policy to encourage more equitable remuneration of creative workers; incentivising the development of tools to track, enforce, register IP or copyright breaches; and distribute fair pay or remuneration for original or AI-augmented works.	Set up a task force to regularly assess the impact of AI on the creative industries, including its effect on employment, creativity, and innovation. This body could recommend policy adjustments as AI technology and its applications evolve. Implement pilot projects to test new AI regulations and practices within the creative sector. These projects can provide valuable insights before broader implementation.

Figure 21: The 7 crucial policy actions for CCI Protection-Innovation-Remuneration, SACO 2024

6.2 Policy recommendations

To guide South Africa's transition into an AI-ready society, the Department of Communications and Digital Technologies (DCDT, 2024b) has issued a new draft framework for public comment in August, which outlines strategic pillars essential for integrating AI into various aspects of society. This framework addresses the immediate pressures of technological advancement and economic necessities, aligns with the National Development Plan's vision of sustainable growth and social equity, and confronts historical challenges such as the digital divide and socio-economic inequalities. Its 12 strategic pillars³⁷ sync with recommendations emerging from the research of this report. The pillars stand to create a foundation for broad AI integration across South African society. The authors support the framework and recommendations therein and therefore do not seek to reproduce them here, but recommend that readers consult the pillars as complementary to the recommendations made in this report. However, we do propose additional, more specific interventions and recommendations.

6.2.1 General policy, legislative and regulatory recommendations

In addition to the 12 areas listed in the framework, the authors propose six additional considerations. The first is the development of a unified national vision for the AI era in South Africa. Currently, there is no adequate or simply stated vision statement for South Africa's AI-era. This vision should align government, industry, and civil society efforts, and be as inclusive as possible. It should indicate blue sky thinking and apply the 'Protection-Innovation-Renumeration Continuum' more broadly to society as a whole. The second is to amplify efforts to localise ethical AI guidelines, like UNESCO's Ethical AI Guidelines, to South Africa's context, emphasising the principles of transparency, fairness, accountability, diversity, and cultural and human rights. Thirdly, there is a powerful need to implement strong data governance policies that prioritise privacy, security, and ethical data use, ensuring responsible AI development and application; and promote inclusive decision-making processes within AI governance. A fourth recommendation is to lead and facilitate the creation of inclusive AI governance frameworks that consider the needs and experiences of the Global South as fundamentally different from those of the Global North. A fifth consideration is to drive closer, more efficient and productive collaboration to ensure marginalised communities are given access to AI technologies by expanding digital infrastructure, reducing data costs, and making AI tools affordable and accessible. Lastly, it is for South Africa to establish a mechanism to continuously monitor AI policies nationally, regionally and internationally (or work with partners such as the OECD AI Policy Observatory to do so); and to update and pivot national policy where necessary in response to technological advancements, societal changes, and ethical considerations.

As the cultural sector is particularly vulnerable to AI disruptions, and largely ignored as an affected sector, an emphasis on CCI-specific policy recommendations becomes crucial. The subsequent section delves into how these general AI strategies, alongside the national framework, can be adapted and expanded to protect CCI workers, foster innovation both within the CCIs and across society, and ensure fair remuneration of creative workers for their work.

³⁷ 1) Talent development and capacity building; 2) digital infrastructure; 3) research, development, and innovation; 4) public sector implementation; 5) ethical AI guidelines; 6) privacy and data protection; 7) safety and security; 8) transparency and explainability; 9) fairness and bias mitigation; 10) human-centred approach; 11) professional responsibility; and 12) promotion of cultural and human values.

6.2.2 CCI-specific policy, legislative and regulatory recommendations

The South African government can take several steps to regulate AI and build policy and ethical frameworks, both independently and in collaboration with collectives such as the Southern African Development Community, African Union, and BRICS, while also addressing the needs of workers in the cultural and creative industries. A starting point is to localise some of the key touchstones out of the UNESCO Recommendation on the Ethics of Artificial Intelligence (see Table 7) (2022:32-35).

Table 7: Summary of applicable areas out of UNESCO Recommendation on the Ethics of Artificial Intelligence policy action areas.

UNESCO Recommendation	Policy Action for South Africa
Incorporate AI in cultural heritage preservation and promotion	*Integrate AI into museums, galleries, libraries, and archives for preservation, digitization, and access. *Fund R&D for innovative AI applications in cultural heritage.
Address AI's cultural impact, especially on natural language processing (NLP) applications such as automated translation and voice assistants, on the nuances of human language and expression	*Invest in AI-powered language technologies for endangered languages and indigenous knowledges. *Develop culturally sensitive NLP applications that respect language nuances.
Promote AI education and training for creative professionals	*Implement AI literacy and skills development programs for artists and CCI stakeholders. *Foster collaborations for training on AI tools and their impact. *Develop educational resources on AI ethics and responsible AI practices.
Promote awareness and evaluation of AI tools among local cultural industries and SMEs	*Raise awareness and facilitate evaluation of AI tools among local cultural industries and SMEs. *Provide financial and technical support for AI adoption. *Create platforms for knowledge-sharing and collaboration.
Engage tech companies to promote diverse cultural expression and access	*Ensure a diverse and pluralistic cultural market. *Enforce policies preventing market concentration. *Promote local content visibility through algorithmic recommendations.
Promote research on AI and intellectual property	*Research the intersection of AI and IP rights in cultural production. *Explore legal frameworks for AI-generated works and attribution. *Assess AI's impact on IP owners' rights.
Assess AI's impact on IP owners' rights	*Evaluate how AI affects the rights and interests of IP owners whose works are used in AI.
Encourage cultural institutions to use AI to enhance collections and access	*Encourage museums, galleries, libraries, and archives to use AI to highlight collections and improve access.
Cross-cutting considerations	
Transparency and accountability	Ensure transparency and explainability in AI use, especially in decision-making. Establish redress mechanisms for discriminatory outcomes.
Inclusivity and diversity	Encourage diverse representation in AI development and ensure cultural sensitivity.
Continuous monitoring and evaluation	Regularly monitor and evaluate AI policies and their impact, adapting as needed based on stakeholder feedback.

These 8 areas provide a powerful baseline for focusing policy efforts in service of the CCIs and creative workers, cognisant of the impact of AI. It is suggested that the South African government

considers these 8 thematic policy focal points and 3 transversal ones as a starting point. This needs to be done in conjunction with a comprehensive review existing policies and legislation to decipher how they interface and interact with UNESCO's Recommendations. In addition, the UNESCO focal points, this sub-section aims to explore a few more CCI-specific interventions South Africa should consider in the policy-making cycle.

Firstly, there is a pressing need to clarify ownership of AI-generated works, address concerns regarding copyright infringement, and establish fair licensing practices for AI-assisted creations, and hence, to review copyright and other laws. This process would involve updating copyright and intellectual property regulations that clearly define the rights of creative workers and users in the context of AI. Strengthening data protection and privacy laws, such as the POPIA and Copyright Amendment Bill, is crucial to ensure transparent data collection, storage, and usage practices, especially concerning personal and copyrighted material; as well as dealing with fair use clauses and opacity. This would also help build public trust and safeguard the privacy of individuals and provide creative workers with the confidence to go about their work, sure of commiserate protections and recourse to remuneration. Supporting AI research and innovation in the CCIs is another vital area. Allocating funding for research to explore the potential of AI in the creative sector and developing innovative AI-powered tools and platforms for local creators that directly manage their AI concerns and needs.

On a collective level, harmonising AI regulations across the region or blocs can create a consistent and predictable legal environment for businesses and creators operating across borders. This harmonisation would facilitate smoother interactions and collaborations among member countries and improve trade. Establishing regional data sharing agreements is important for secure and ethical data sharing for AI development while respecting privacy and data sovereignty concerns. Such agreements would enhance the capabilities of AI systems by providing access to larger African datasets. Advocating for global AI governance frameworks that reflect the interests and concerns of the Global South, particularly in relation to the CCIs, is crucial. Presenting a unified voice in international forums could influence global policies to be more inclusive, equitable and considerate of the needs of the creative sector locally.

Collaborating on joint research and development initiatives focusing on shared challenges and opportunities relevant to the CCIs in the region or bloc can drive innovation and address common issues more effectively. This collaboration would pool resources and expertise from multiple countries. Facilitating knowledge exchange and capacity-building programmes on AI for CCI professionals, policymakers, and regulators across member countries, and within South Africa, would enhance the overall understanding and capabilities in the AI domain. This would ensure that all stakeholders are well-equipped to navigate the AI landscape.

To protect CCI workers from potential job displacement due to AI automation, implementing social safety nets such as income support, re-training programmes, and opportunities for new creative ventures is essential. These measures would provide a safety cushion for workers transitioning to new roles or industries; and allow for 4IR relevant training and reskilling to take place. Developing fair compensation and revenue-sharing models for creators whose work is used to train AI models or incorporated into AI-generated content guarantees that creators are remunerated fairly for their contributions. This would prevent exploitation and ensure that creators receive their due share. Government also needs to lead on building supportive scaffolding and incentives for tech companies and entrepreneurs to help create solutions for AI-CCI problems, for example using blockchain technology or other digital ownership verification techniques. Ensuring representation of CCI workers, agencies and agents, and their unions (such as CIFFSA) in policy discussions and decision-making processes related to AI regulation and deployment is necessary to advocate for

their interests and rights effectively. This inclusion would ensure that the voices of workers are heard and considered. DSAC also needs to be present in different policy-making fora and advocate for the CCI and artist rights in AI policymaking. An approach that considers the below 8 elements will enable South Africa to lead in shaping a responsible and beneficial AI landscape for the CCIs, advancing innovation, protecting workers, and ensuring the industries thrive – enabling the holy grail pathway rather than a doomsday situation for creative workers.

- 1) **Establish regional and continental working groups:** Collaborate with BRICS, SADC, and the African Union to create working groups focused on AI in CCIs. These groups should coordinate on emerging challenges, share best practices, and develop AI policies that are internationally aligned. They should also work toward establishing interoperable regional policy consistent AI regulations across regional blocs to create a predictable legal environment for businesses and creative workers. This harmonisation would facilitate cross-border collaboration and trade in digital creative services in particular. South Africa should also collaborate with regional blocs and other countries and universities to drive research into common challenges and opportunities relevant to the CCIs. The establishment of a national taskforce on AI and the CCIs is a crucial first step.
- 2) **Clarify ownership and copyright issues:** South Africa should develop clear regulations defining ownership of AI-generated content and outline fair licensing practices for AI-assisted creations. This will protect the rights of creators and users in the context of AI and ensure that copyright infringement cases can be effectively enforced. A full review of relevant legislation and policy, especially Copyright Amendment Bill and POPIA, is needed. Government could support the development of a ‘Creators Bill of Rights for the AI era’.
- 3) **Support AI research and innovation in CCIs:** South Africa should allocate funding for research to explore the potential of AI in the creative sector. This includes supporting innovative companies building AI-powered tools and platforms for local creators, which will drive growth and innovation in the industry. To support this, a national research and innovation centre for the CCIs or a hub could be established.
- 4) **Facilitate knowledge exchange and capacity building:** South Africa should develop programmes for knowledge exchange and capacity building in AI, targeting CCI professionals, policymakers, and regulators. This will enhance the overall understanding and capabilities in the AI domain, ensuring that all stakeholders are well-equipped to navigate the AI landscape. A first step would require a national skills gap analysis.
- 5) **Implement social safety nets for CCI workers:** To protect CCI workers from potential job displacement due to AI automation, South Africa should implement social safety nets such as income support and retraining programmes. This will provide a safety net for workers transitioning to new roles or industries; or for those managing AI-disruption within the industries.
- 6) **Develop and experiment with fair compensation models:** South Africa should develop fair compensation and revenue-sharing models for creators whose work is used to train AI models or incorporated into AI-generated content; and support businesses deploying. This will ensure that creators are remunerated fairly for their contributions and prevent exploitation.
- 7) **Ensure representation of CCI workers in policy discussions:** South Africa should guarantee that CCI workers and their representative organisations or unions, such as CIFFSA, are included in AI policy discussions and decision-making processes to advocate for their interests and rights; and ensure that DSAC represents CCI interests in government policy making processes and fora.

- 8) **Invest in local AI development:** South Africa should encourage the creation of AI models that are culturally aware and trained on diverse datasets through incentives, an AI-CCI fund and other investment levers. This will help preserve cultural narratives and prevent misrepresentation; ensure more diverse datasets and improve the quality of AI inputs, mitigate against bias and biased outcomes to automated decision-making. To this end an AI Ethics Review Board for the CCIs could be beneficial.

6.1. Phased approach to South Africa's navigation of algorithmic age

By implementing the following immediate, medium-term, and long-term actions, generally (Figure 21), and then the CCI-specific actions (Figure 22), the South African government can proactively navigate the AI and algorithmic age, ensuring that AI technologies contribute to the growth, inclusivity, and sustainability of the CCIs while upholding ethical and regulatory standards.

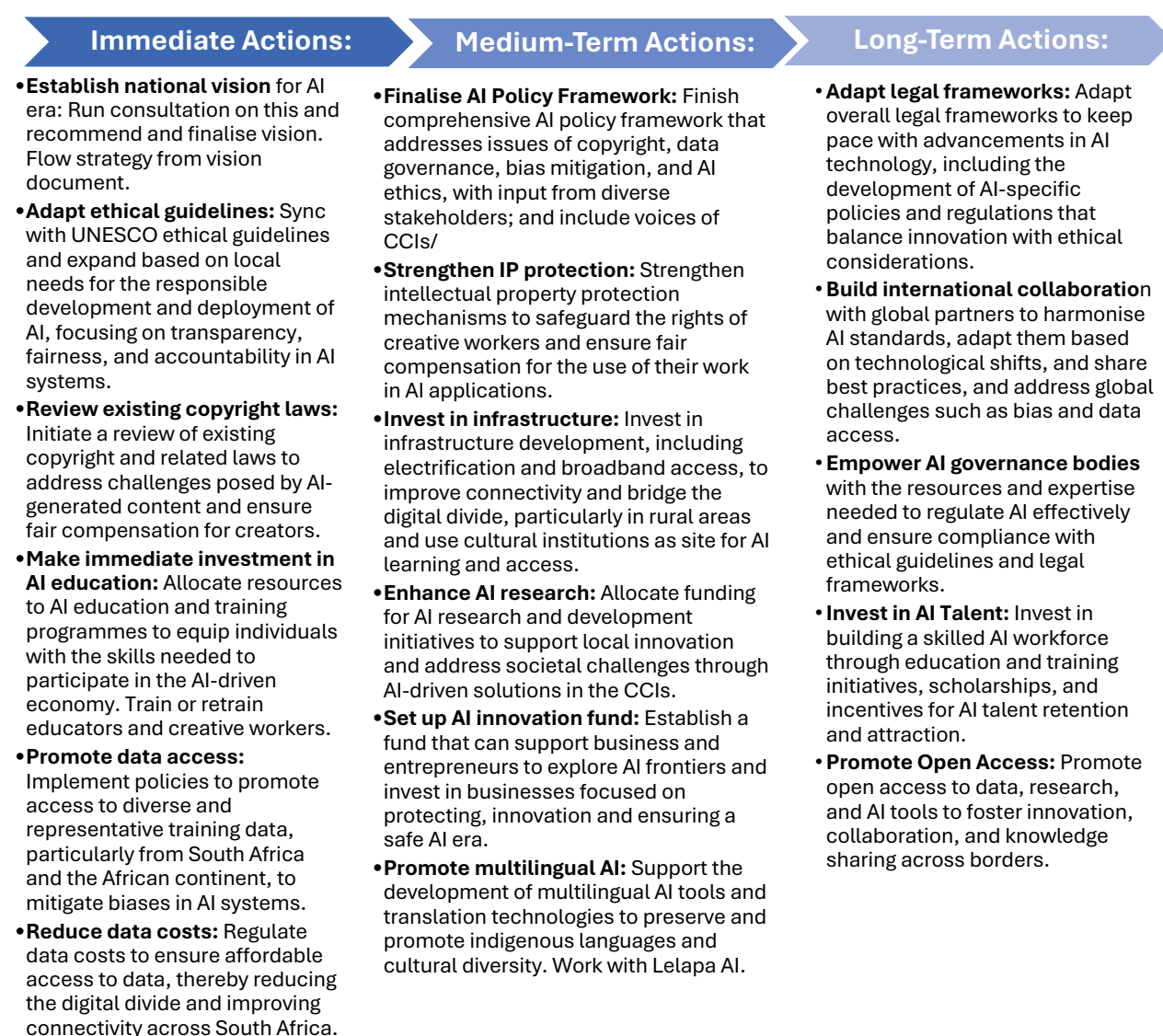


Figure 22: Proposed phased approach to proactively navigate the AI and algorithmic age generally, SACO 2024.

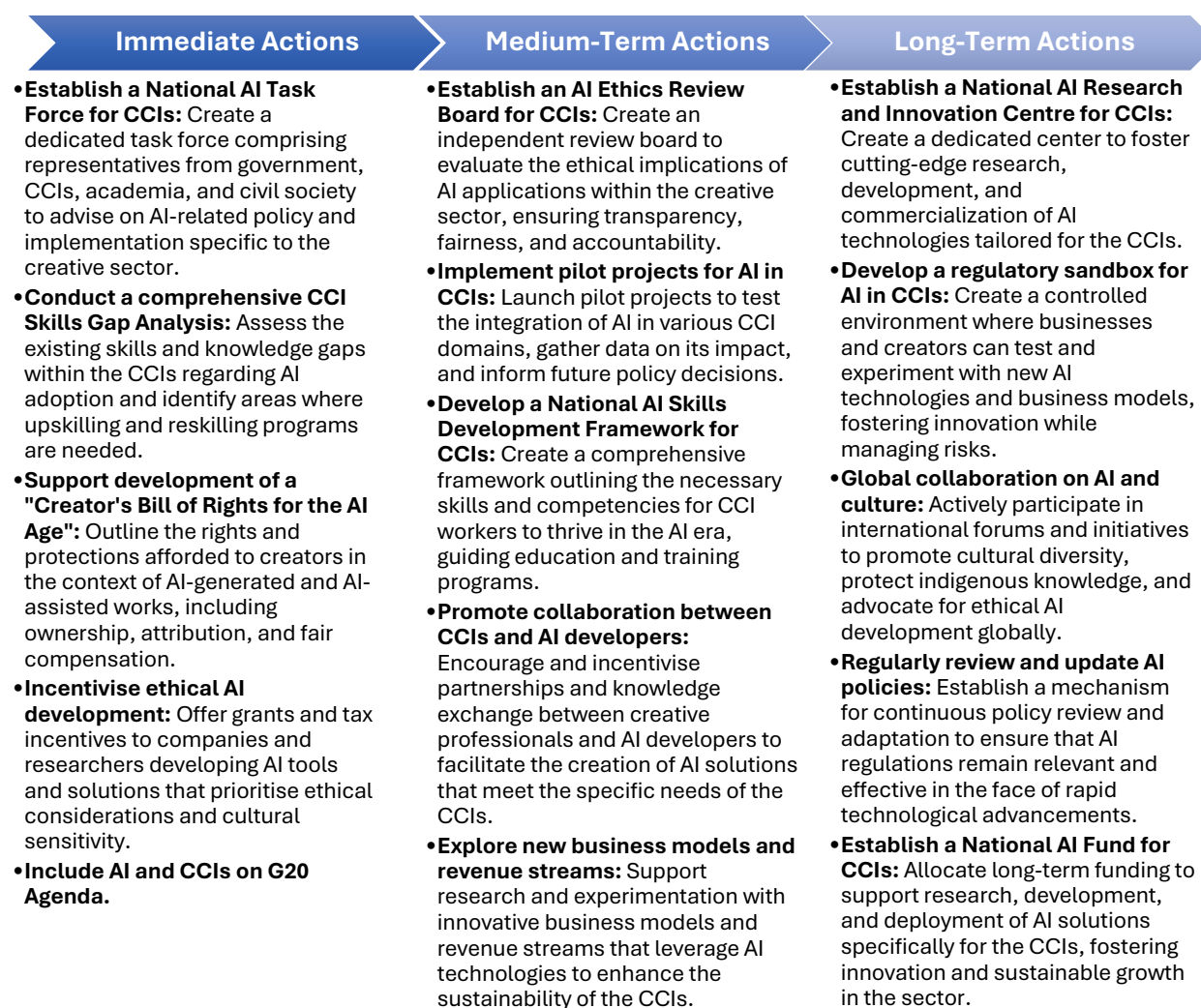


Figure 23: Proposed phased approach to proactively navigate the AI and algorithmic age in relation to CCIs, SACO 2024.

6.3 Addressing the AI era: Balancing CCI protection, innovation, remuneration and future research areas

The integration of AI within South Africa's CCIs presents a complex landscape where the drive for innovation must be balanced with safeguarding creative workers and their intellectual property. This calls for a nuanced policy framework that not only supports technological advancement but also ensures equitable distribution of benefits and protects people against potential disruptions.

South Africa could emerge as a leader in shaping AI policy within Africa, leveraging existing initiatives such as the *UNESCO Recommendation on the Ethics of Artificial Intelligence* and a national AI framework. By adopting a proactive and holistic approach, policymakers can create an environment where AI serves as a catalyst for growth and creativity, rather than a source of disruption and inequality. A "Protection-Innovation-Remuneration Continuum" model could guide policymaking to safeguard creative workers and their work. In this, seven key areas are identified for policy intervention including leading regional responses to the AI era, establishing ownership onus, breaking bias patterns, investing in innovation, guarding jobs, normalising remuneration, and piloting and pivoting policies.

The research shows that the following general and specific policy action areas should take priority, underpinned by existing prioritisation mapped in the South African National AI Framework (2024b).

Table 8: Summary of key general and specific policy recommendations resulting from SACO research.

General Policy Recommendations	CCI-Specific Policy Recommendations
Develop a unified national vision for the AI era in South Africa.	Review and update copyright and IP laws to address AI-generated content.
Adapt UNESCO's Ethical AI Guidelines to the local context.	Strengthen data protection and privacy laws.
Implement robust data governance policies and promote inclusive AI governance.	Launch campaigns against AI-related biases and misinformation.
Lead efforts to create inclusive AI governance frameworks that consider the needs of the Global South.	Fund AI-driven innovations and create collaborative innovation hubs.
Ensure equitable access to AI technologies for marginalised communities.	Develop standards to protect creative workers from job displacement.
Establish mechanisms for continuous monitoring and adaptation of AI policies.	Create policies for equitable remuneration and support tools for tracking and enforcing IP rights.
	Ensure representation of CCI workers in policy discussions.
	Invest in local AI development that is culturally aware and trained on diverse datasets.
	Conduct interdisciplinary research on AI's societal impact and CCI impact.
Underpinned by SA National AI Framework: 12 Pillars	
1) Talent development and capacity building; 2) digital infrastructure; 3) research, development, and innovation; 4) public sector implementation; 5) ethical AI guidelines; 6) privacy and data protection; 7) safety and security; 8) transparency and explainability; 9) fairness and bias mitigation; 10) human-centred approach; 11) professional responsibility; and 12) promotion of cultural and human values.	

By proactively addressing the key policy areas outlined in this report, and phasing roll out of recommendations, South Africa can harness the transformative potential of AI while safeguarding its creative workers and cultural heritage. This involves a multi-faceted approach that encompasses legal and regulatory frameworks, investment in skills development and innovation, and a commitment to ethical and inclusive AI practices. By taking these steps, South Africa can position itself as a leader in responsible AI adoption, while concurrently bolstering its creative economy while becoming a destination for creative workers seeking AI protection within an innovative ecosystem.

Then, future research should prioritise continuous monitoring of AI advancements and their impact on the creative and cultural industries. This involves tracking the emergence of new AI tools and applications, assessing their implications for creative work and workflows, and identifying potential risks and opportunities. Additionally, research should focus on evaluating the effectiveness of implemented policies and interventions, ensuring they are responsive to the dynamic AI landscape. This includes monitoring the impact of AI on employment, skills development, and diversity in the CCIs. Furthermore, ongoing research is needed to address the challenges of bias in AI algorithms and datasets, exploring methods for bias mitigation and ensuring fair and equitable outcomes. Evaluating the allocation and impact of funding for AI research and development in the CCIs is also crucial to ensure that resources are effectively utilised and aligned with the goals of responsible and inclusive AI integration. Further research and analysis are needed to fully understand the long-

term implications of these National AI strategies on CCIs in the Global South. This is beyond the scope of this report however an important area of future research. Finally, future research should also seek to further develop and refine the “Protection-Innovation-Remuneration Continuum” model proposal, exploring its applicability and effectiveness in various CCI contexts and policy, and identifying areas for improvement or expansion.

7 Conclusion and outlook

The algorithmic age represents *both* a rushed revolution and a holy grail for the CCIs globally and in South Africa. The tensions between revolution and renaissance are palpable across the world, but in the CCIs worldwide and in South Africa, they are the source of a throng of related causal tensions. This report explores these tensions through powerful documentary analysis and primary research. It also comprehensively explores the multifaceted impact of AI on the CCIs.

In an effort to understand the impact of AI on creativity, creative workers and work, the report authors sought insights, experiences and sentiment directly from those whose workflows, income and business have been altered by AI, signalling the dawn of a transformative new era. We did this through a dipstick survey, national workshop, and a set of interviews. We also explored tens of examples of real-world experiences of the positive and negative impacts of AI on creative workers and work and presented a broad baseline summary of literature on the intersections between AI, creativity and the CCIs. The authors also produced a snapshot of legislative, policy and regulatory efforts underway to tame and regulate AI, globally and locally, as of July/August 2024.

In the above report we provided an overview of the current state of AI and GenAI integration in the CCIs, including exploring its economic, cultural, and ethical implications and dimensions, and applied learning from this to general policymaking in anticipation of AI and specific policymaking focused on the CCIs. Economic implications include job displacement, skills development, fair compensation, and economic potential of AI in the CCIs. Several cultural implications emerged focused on originality, creativity, cultural preservation, and the balance between human and AI creativity. From an ethical standpoint, we explored concerns about copyright, bias, discrimination, privacy, and the need for responsible AI development from the perspective of creative worker. We emphasised the need for proactive policies, ethical considerations, and collaborative efforts to navigate the challenges and opportunities presented by AI integration in the CCIs while ensuring equitable outcomes for all stakeholders.

To deliver on the research goal and adequately test the hypothesis, we explored a range of key concepts in the field of AI and creativity, and defined the potential, problems and concerns caused by AI in the CCIs using case studies, examples from popular media and literature, and through interviews and workshops. The authors also identified and articulated the set of key challenges and opportunities posed by the rapid adoption of AI technologies in creative work and on creative workers based on insights from a SACO survey.

The primary opportunities, according to respondents and participants include enhanced productivity and efficiency where AI can automate repetitive tasks, freeing up creative workers to focus on higher-order conceptual and creative work. AI tools can also streamline workflows and accelerate production processes, enabling faster turnaround times and increased output. Another key opportunity area falls under augmented creativity and innovation where AI can assist in generating new ideas, exploring unconventional approaches, and pushing creative boundaries. By providing access to vast amounts of data and analytical capabilities, AI can inspire novel artistic expressions and open new avenues for creative exploration, rapid ideation, generation and

research. There are significant opportunities for improved accessibility and inclusivity, provided infrastructure, access and inequalities are mitigated for. For example, AI-powered translation and accessibility tools can also facilitate cross-cultural collaboration and make creative content more inclusive for diverse audiences. Finally, there are also substantial opportunities for innovative new business models and revenue streams for creative workers who use AI to augment or speed up or compliment their work and business operations.

However, major hurdles remain. The threat of job displacement due to automation and a widening skills gap loom over AI advances. Creative workers may need to adapt and acquire new skills to remain relevant in the AI-driven landscape. There is also a risk of a growing skills gap if adequate training and upskilling opportunities are not provided. Rightfully, for the CCIs, there are noteworthy anxieties around the protection of IP and copyright. The use of AI in creative work raises more questions about ownership, copyright, and attribution than it solves. It can be challenging to determine who owns the rights to AI-generated content and how to protect the intellectual property of human creators whose work is used to train AI models. Still, AI companies could, with the right structural incentives work closely to solve the copyright and ownership issues by building tools that tackle the problems arising. AI algorithms can perpetuate biases present in their training data, leading to discriminatory outcomes and reinforcing existing social inequalities. There are also concerns about the potential misuse of AI for creating deepfakes, spreading misinformation, and manipulating public opinion – these disruptive forces will impact creative jobs and by extension discredit creative work, with a knock-on impact on those employed in the sector. Finally, there is a debate about the potential impact of AI on human creativity and the value of authentic human expression. Some fear that overreliance on AI could lead to a homogenisation of creative output and a devaluation of human ingenuity. Others see it as a ‘robotic arm’ that can augment human creativity. Many more nuanced opportunities and challenges are explored and voiced throughout the report. The culminate in what the authors argue is the emerging of a set of fundamental tensions that have or will characterise this early phase of the AI era.

The authors, throughout the document using the survey, workshop and interview tools, attempted to reflect diverse perspectives and voices, including those from different cultural backgrounds and creative disciplines, in the report’s findings and recommendations. The research also effectively captured diverse perspectives from policymakers, and industry experts, offering in-depth insights into the perceived benefits and concerns surrounding AI’s role in the creative process. The result was that the report is rich in qualitative inputs and quotes mapping out the sentiments and experiences.

The authors also provided detailed policy insights and recommendations for policymakers and industry stakeholders to effectively navigate the AI-driven transformation of the CCIs, proposing a Protection-Innovation-Remuneration Continuum model as a framework to make policy decisions and balance AI’s disruptive potential with its innovative possibilities for the CCIs specifically and with expansion, society as a whole. The policy section outlines both society-wide recommendations for AI regulation, legislation and policy; and CCI specific interventions, to support the South African government in adapting to and advancing its policy-making efforts across the economy and within the CCIs. Overall, this report has set the stage and background for ongoing and future research and discussion on the evolving role of AI in the CCIs, as technology and practices continued to develop.

7.1 Reviewing hypotheses

At the onset of the research, the authors proposed five hypotheses:

- Hypothesis 1: The AI era will lead to the amplification of tensions between opposing ideas and forces and directly impact the cultural and creative industries for good or bad.
- Hypothesis 2: AI-driven tools will enhance and expand creative possibilities within the cultural and creative industries, leading to new forms of artistic expression and collaboration.
- Hypothesis 3: The adoption of AI technologies within the cultural and creative industries will significantly disrupt traditional workflows, value chains, and employment models.
- Hypothesis 4: The implementation of AI within the cultural and creative industries will raise significant ethical concerns around data use, intellectual property, and the potential for bias or exploitation in creative outputs.
- Hypothesis 5: The impact of AI adoption on the cultural and creative industries will be uneven, with varying levels of benefits and disruptions across different sectors, job roles, and geographical regions.

Regarding the creation and amplification of tensions, the findings support this hypothesis, as the research reveals that the integration of AI in the CCIs has created tensions and concerns among creative workers. The frictions which emerged lay between power and policy; slowness or ethical caution and speed of deployment; fear and excitement; and human creativity and machine creativity or automation; control and agency, among other tensions (see Table 6). One of the most powerful tensions between the past and the future. These tensions also unearthed related issues covering challenges such as job displacement, intellectual property rights, biases in AI algorithms, and the balance between globalisation and cultural diversity. The research highlights the need for proactive policies and regulations to address these tensions and ensure a balanced and equitable integration of AI in the CCIs, and in broader communities.

In analysing hypothesis 2, the findings strongly demonstrates that AI has the potential to enhance and expand creative possibilities, and even support the production of new forms of artistic expression and collaboration (some of it with machines) within the CCIs. Many creative workers reported using AI tools and software in their work, and they expressed excitement about the new paradigm of possibilities and conveniences that AI offers. The research highlights the transformative potential of AI in furthering innovation, improving efficiency, and amplifying local creativity globally.

Disruption has been a core theme of the research, which reveals that the adoption of AI technologies in the CCIs has significantly disrupted traditional workflows, value chains, and employment models. While AI offers benefits such as increased productivity and speed, it also raises concerns about the impact on human creativity and the need for continuous skills development. The research emphasises the importance of addressing these disruptions and finding ways to adapt and thrive in the AI era.

Another key theme was the questions of ethics and ownership. The research highlights noteworthy ethical concerns surrounding the use of AI in the CCIs. Issues such as data collection and usage, intellectual property rights, fair compensation, and bias in AI algorithms were raised by creative workers. So was the issue of ownership of creative works in the AI era and ensuring that there are solid frameworks for assessing ownership, copyright, fair use and appropriate compensation models. The research stresses the need for ethical and responsible use of AI, as well as the development of policies and regulations to address these concerns and protect the rights of creators.

On uneven impact, there is more work to be done. The majority of the respondents to the survey came from the TV and animation, and design and creative services domains. More needs to be

done to understand the impact of AI adoption in the CCIs is uneven across different sectors, job roles, and geographical regions. Still, the research findings are an indicator as to which domains are more likely to be impacted in the first phase of the AI evolution. AI will be a general-purpose technology, ubiquitous, IT and electricity. As such, all cultural domains need to be prepared. Some more than others early on, but since it will make a protracted aggregate impact, preparedness is key. This is why the authors advocate for comprehensive policy, legislative and regulatory reform. In this moment of the AI era's onset, some creative workers are embracing AI and see it as a powerful tool for amplifying creativity. Others are expressing concerns about its potential to replace human creativity and the uneven distribution of benefits and disruptions. The research underscores the importance of considering these variations and implementing policies and initiatives that ensure inclusive growth and equitable access to AI opportunities. By doing so, South Africa can position itself as a leader in AI legislative matters in Africa, and in the CCIs, specifically and create a regulatory environment that fosters innovation, protects creators' rights, and maximizes the benefits of AI in the CCIs.

7.2 Key quantitative research findings

As at May 2024, the results of a dipstick survey of 157 creative workers, indicated that the majority (67.9%) were excited about the coming of the AI era, and while they had some concerns, these were largely outweighed by enthusiasm. Close to two thirds of respondents said they used AI in their creative work, and more than 50% of creative workers reported that when using AI, that it helped them. A total of 80.3% of respondents reported no negative impact of AI on their work and 19.7% reporting negative impact.

Concerns were raised by respondents about data colonialism, value extraction, and the lack of government policy to regulate AI in South Africa. Respondents expressed a nuanced understanding of the opportunities and challenges posed by AI in the creative industries, emphasising the importance of ethical considerations, skills development, and maintaining a balance between human ingenuity and technological innovation. Most respondents (89.5%) agreed that AI policy was needed and that that policy should focus on IP (89%). Some key statistical findings are summarised below.

- A total of 70.7% of respondents reported actively using AI in their creative work processes.
- Among those using AI, 52.9% said it had helped their process, while 31.8% said it had somewhat helped them. Only 5.7% of respondents said AI had hindered their process.
- Almost all respondents (89.6%) expressed concerns about intellectual property and copyright infringements, plagiarism, diminished remuneration, the emergence of AI "junk", and conflicts with authentic and factual content.
- Approximately 42.04% of respondents believe that AI has the potential to replace human creativity in the creative sector.
- Overall, 67.9% of respondents indicated positivity towards AI, 17.3% were indifferent, and 14.7% expressed fear or concern about AI and machine learning.
- The top three AI tools/software used by respondents were ChatGPT (41%), Canva (25%), and the Adobe Suite (15%).
- Familiarity with and overall attitude toward AI in creative processes varied, with 49.3% being quite familiar and 15.9% being very familiar. In terms of attitude, 33.8% were neutral, and 28% were positive.
- The impact of AI on respondents' creative work varied, with 80.3% reporting no negative impact and 19.7% reporting negative impact.

- Most respondents (89.5%) agreed that policy was needed to regulate AI in the creative sector.

The results demonstrate that while respondents are cognisant of the challenges of the AI era; the most powerful sentiment is excitement, experimentation and a slow embrace of AI tooling.

7.3 Key qualitative research findings

From a qualitative perspective, the authors synthesised inputs from the survey, workshop and interviews under thematic trends informed by the tensions. Three main thematic trends emerged and were interrogated at length:

- 1) How AI impacts creative work and daily creative production
- 2) Job displacement, skills development, and keeping pace with AI
- 3) Tackling copyright, IP, ownership & mitigating against bias in the AI era Local value made global, IP protected?

Arising from discussions around these themes were several key words: Positivity and excitement, fear and concern, policy; copyright; bias; protection; human-in-the-loop; economic and innovation potential; jobs displacement, authenticity; creativity; technology dependence. In this respondents and participants, expressed many complex, subtle, and contradictory sentiments. They saw AI as a tool that can eliminate tedious and repetitive processes, enhance creativity, and generate new ideas, while feeling concerned about the impact of AI on their jobs and the creative industry as a whole. They worry that AI could replace human creativity, lead to job loss, and result in the commodification of creative work. Respondents acknowledged the economic and innovation potential of AI in the creative sector. They recognised that AI could drive productivity, efficiency, and global competitiveness, and enable new forms of creativity and problem-solving. Respondents however questioned who should be credited for work created using AI and how ownership should be determined. They also raised concerns about plagiarism and the potential for AI to replicate existing creative works without proper attribution. The issue of bias in AI algorithms was highlighted as a major concern. Respondents expressed worries about AI perpetuating existing biases and stereotypes, leading to discriminatory or offensive content. They emphasised the importance of addressing bias and promoting diversity in AI development. The collection and use of personal data by AI systems raised concerns about privacy and data security. Respondents stressed the need to protect personal data and ensure responsible data management practices. The concept of human-in-the-loop was mentioned as a way to balance AI and human creativity. Respondents stressed the importance of human control and decision-making in the creative process, with AI serving as a tool to enhance human creativity rather than replace it.

Overall, the themes that emerged reflect a mix of optimism, concerns, and the need for responsible and ethical use of AI in the creative sector. All wanted policy guardrails, clear definitions and protections and a balance to be struck between allowing space for innovation, while guarantees of their rights and routes to recourse.

7.4 A CCI policy paradigm

The policy recommendations section underlines the urgent need for proactive measures to navigate the AI era in South Africa, particularly within the CCIs. In this the authors advocates for a balanced approach that promotes innovation while safeguarding the rights and interests of creative

workers. The report proposes a “Protection-Innovation-Remuneration Continuum” as a guiding decision-making framework for policymakers when engaged in the policy making process. It advocates for prioritising all three dimensions when making policy choices, ensuring that creative workers and their work are protected, innovation promoted, and that remuneration is fair and commensurate with worth.

The section outlines several extensive key policy recommendations, from the general, applicable to society, to the specific, applicable to the CCIs. Summarised they cover:

- **Establishing and updating regulatory frameworks:** The rapid evolution of AI technologies necessitates the development of clear regulations that define ownership of AI-generated content, address copyright infringement, and ensure fair licensing practices. The section also highlights the need to strengthen data protection and privacy laws to safeguard personal and copyrighted material.
- **Reskilling initiatives:** The section emphasises the importance of investing in education and skills development programs to equip creative workers with the necessary skills to adapt and thrive in the AI-driven landscape. It also calls for the establishment of social safety nets to protect workers from potential job displacement due to AI automation.
- **Addressing inclusivity and accessibility:** The section highlights the need to address the digital divide and ensure equitable access to AI technologies and resources, particularly for marginalised communities. It also underscores the importance of promoting diversity and inclusivity in AI development and deployment.
- **Encouraging collaboration between AI and humans:** The report advocates for a collaborative approach that leverages AI as a tool to enhance human creativity rather than replace it. It also calls for the development of fair compensation and revenue-sharing models for creators whose work is used to train AI models or incorporated into AI-generated content.
- **Promoting ethical considerations:** The report underscores the importance of ethical AI development and use, addressing issues such as bias, misinformation, and the potential misuse of AI. It calls for the establishment of ethical guidelines and regulatory frameworks to ensure responsible AI practices.

The report proposes a phased approach to implementing these recommendations, with immediate, medium-term, and long-term actions. It also suggests areas for future research, including continuous monitoring of AI’s evolution, evaluating policy implementation, addressing bias mitigation, and expanding the “Protection-Innovation-Remuneration Continuum”. Overall, the policy recommendations aim to create a regulatory environment that fosters innovation while safeguarding creators’ rights, protecting consumers, and ensuring the ethical and equitable use of AI in the CCIs. They are based on international standards, best practices, and the specific needs and vulnerabilities of the South African context. By implementing these recommendations, South Africa can navigate the challenges and harness the transformative potential of AI in the CCIs, cultivating a thriving and inclusive creative economy in the AI era.

7.5 Final thoughts and outlook

The integration of AI in the cultural and creative industries represents a paradigm shift that offers both unprecedented opportunities and significant challenges. It is both a rushed revolution and a renaissance. South Africa, with its rich cultural heritage and dynamic creative sector, plus supportive environment, infrastructure and thriving private and technology sector, is strategically positioned to spearhead responsible AI adoption and innovation within the CCIs across the African continent.

Still, the rapid evolution of AI technologies in the CCIs necessitates increased regulation and control, particularly in Africa, where infrastructure, legal protections, and digital literacy are lagging. South Africa, with its foundation in the UNESCO Recommendation on the Ethics of Artificial Intelligence and ongoing national AI discussions, is well-positioned to lead the continent in AI policy development. The focus should be on encouraging innovation while safeguarding creators' rights and ensuring ethical AI use. This study proposes the 'protection-innovation-remuneration continuum' as decision-making model to balance AI's disruptive potential with its innovative possibilities. Key areas for policy intervention include leading regional responses, establishing ownership clarity, mitigating bias, investing in innovation, protecting jobs, ensuring fair remuneration, and piloting and adapting policies. The South African government can take steps to regulate AI, both independently and in collaboration with regional and continental bodies. This involves adapting existing laws, establishing ethical guidelines, and investing in education and skills development.

The envisioned future is one where AI serves as a catalyst for human creativity rather than a replacement. This study anticipates a South African creative landscape where AI tools democratise access to creative production, enabling creative workers from diverse socioeconomic backgrounds to engage with global audiences. Furthermore, it is projected that novel forms of artistic expression will emerge at the intersection of human ingenuity and machine intelligence, expanding the boundaries of creative possibility. This is something to embrace with excitement. However, the realisation of this vision necessitates immediate and coordinated action from all stakeholders. Policymakers must expedite the implementation of the proposed continuum across policy-making decisions for AI, ensuring that the regulatory framework evolves concomitantly with technological advancements. Industry leaders are called upon to invest in ethical AI development and deployment, prioritising transparency and equitability; and solving for problems in the CCIs using AI. Creative workers must also embrace continuous learning, adapting their skill sets to maintain relevance in an AI-augmented environment. To navigate the AI age effectively, we propose a phased approach with immediate, medium-term, and long-term actions:

- Immediate actions include establishing ethical guidelines, reviewing copyright laws, investing in AI education, promoting data access, and reducing data costs.
- Medium-term actions involve developing an AI policy framework, strengthening IP protection, investing in infrastructure, enhancing AI research, and promoting multilingual AI.
- Long-term actions include adapting legal frameworks, building international collaboration, empowering AI governance bodies, investing in AI talent, and promoting open access.

By addressing challenges such as job displacement, skills development, ethical use of AI, and equitable access to opportunities, policymakers, industry leaders, and stakeholders can harness the potential of AI to drive innovation, protect creators' rights, and ensure sustainable growth. Strategic investments in education/training, infrastructure, and regulatory frameworks aligned with international standards are crucial for South Africa to position itself in AI legislative matters and creating a haven for creative workers to operate in a safe 'protection-innovation-remuneration ecosystem.

Or, in the summative view of ChatGPT: As we look to the future, let us approach the AI revolution not with trepidation, but with a sense of possibility and responsibility. By working together – creatives, technologists, policymakers, and citizens – we can harness the power of AI to build a more vibrant, inclusive, and prosperous creative economy, one that honours our past while boldly embracing the future. The AI era in South Africa's CCIs is not predetermined. It is a future that can be actively

shaped. This juncture presents an opportunity to ensure that we endure and excel in the digital age, setting a precedent for Africa and the global community (ChatGPT, 2024: online).

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9 Addenda

9.1 Key concepts

Related key concepts and definitions for the AI-CCI intersection include:

- Machine Learning: A subset of AI that enables systems to learn from data and improve their performance without being explicitly programmed.
- Deep Learning: A type of machine learning that utilizes neural networks with many layers, allowing systems to learn hierarchical representations of data.
- Computer Vision: The field of AI concerned with enabling computers to interpret and understand visual information from the real world.
- Generative Adversarial Networks (GANs): A type of AI algorithm consisting of two neural networks – a generator and a discriminator – that compete to generate increasingly realistic data.

- **Creative AI:** AI systems designed to assist or autonomously produce creative outputs such as art, music, literature, or design.
- **Machine Learning (ML):** A core AI technique where algorithms learn from data to improve performance on a specific task. This allows AI to analyse creative content, identify patterns, and generate similar outputs.
- **Natural Language Processing (NLP):** A subfield of AI that enables computers to understand and manipulate human language. This is crucial for AI to write different creative text formats, translate languages, and analyse text data.
- **Generative AI:** A type of AI that can create new content, like images, music, text, or code. This is used for tasks like generating ideas, creating drafts, or producing variations on existing creative work.
- **Augmented Creativity:** The concept of using AI as a tool to enhance human creativity, not replace it. AI can automate tasks, suggest ideas, and generate variations, allowing humans to focus on higher-level creative thinking.
- **Bias in AI:** The potential for AI systems to perpetuate biases present in the data they are trained on. This can lead to discriminatory or stereotypical outputs in creative domains.
- **Copyright and AI:** The legal issues surrounding the use of copyrighted material to train AI models and the ownership of creative content generated by AI.
- **Explainability and Transparency:** The ability to understand how AI systems arrive at their outputs. This is important for creative applications to ensure human control and avoid unintended consequences.
- **Human-in-the-Loop:** An approach where humans and AI work together in the creative process. Humans provide direction, curate AI outputs, and make final creative decisions.
- **Algorithmic Curation:** The use of AI to recommend, personalize, and filter creative content for audiences. This can be used for tasks like music recommendations or personalized news feeds.
- **Data Privacy:** The importance of protecting personal data used to train AI models, especially in the context of creative industries that may handle sensitive information.
- **Bias in AI:** The tendency of AI algorithms to reflect and perpetuate existing biases present in the data used for training, leading to discriminatory outcomes.
- **Ethical AI:** Principles and guidelines governing the development and use of AI systems to ensure fairness, transparency, accountability, and respect for human rights and dignity.
- **Intellectual Property (IP):** Legal rights that protect creations of the mind, including inventions, literary and artistic works, symbols, names, and images used in commerce.
- **Copyright:** A form of IP protection that grants exclusive rights to creators for their original works, preventing others from copying, distributing, or adapting the work without permission.
- **Fair Use:** A legal doctrine that allows for the limited use of copyrighted material without permission from the copyright holder, typically for purposes such as criticism, commentary, news reporting, teaching, scholarship, or research.
- **Plagiarism:** The act of using someone else's work, ideas, or intellectual property without proper attribution or permission, often representing it as one's own.
- **Ownership Attribution:** The process of determining and assigning ownership or authorship of creative works, including those generated or influenced by AI.
- **Data Ethics:** Principles and guidelines governing the responsible collection, use, and management of data, particularly concerning privacy, consent, transparency, and accountability.

- Regulatory Frameworks: Legal and policy measures established by governments or organizations to govern the development, deployment, and use of AI technologies, including considerations for ethics, privacy, security, and accountability.
- Cultural Heritage Preservation: Efforts to safeguard and promote the preservation of cultural artifacts, traditions, languages, and practices using AI technologies, such as digitization, data analysis, and virtual reality
 - *(Summary generated by ChatGPT, March 2024).*

9.2 AI engagement list

Here is a list of important and interesting organisations, initiatives and civic groups engaged in analysing the impact of AI more broadly.

- Global Partnership on Artificial Intelligence
- Lelapa AI
- Masakane
- Wits RAIL Lab
- UJ's Electric South
- The Algorithmic Justice League
- The Distributed AI Research Institute (DAIR)
- OCED AI Policy Observatory
- Centre for Artificial Intelligence Research (CAIR)
- AI Institute of South Africa (AIISA)
- AI Now Institute
- Center for Artificial Intelligence and Digital Policy (CAIDP)
- Partnership on AI
- Ada Lovelace Institute
- AI for Good Foundation
- DeepMind Ethics & Society
- Future of Life Institute
- The Montreal AI Ethics Institute
- AI4All
- Data & Society Research Institute
- African Institute for Mathematical Sciences (AIMS) - Next Einstein Initiative
- The Public Voice Coalition

9.3 Interview schedule

The South African Cultural Observatory (SACO), on behalf of the Department of Sport, Arts and Culture (DSAC), was assigned the task of creating a concept note on AI and its influence on the cultural and creative sector. The resulting 22-page document outlined the status of AI's emergence in South Africa and its potential impact on the cultural and creative economy. Titled "Artificial Intelligence: Rushed Revolution or the holy grail of a creative future?", the note examined whether AI would benefit or harm the creative sector, drawing insights from a dipstick survey conducted among cultural and creative workers.

Now, the focus is on expanding this initial work into a comprehensive research report. The report aims to delve deeper into the implications and policy considerations surrounding AI and the cultural and creative industries. It will explore the impact of AI on creative jobs, work, and

ideas, address ethical concerns, and analyse the cultural repercussions in South Africa. Additionally, it will examine the potential for collaboration between AI and humans, explore regulatory trends in AI at global, regional, and national levels, and forecast future trends and challenges. Drawing from emerging AI impact research, media reports, and case studies from South African creatives, the report will provide policy recommendations to the government on safeguarding citizens and creative workers while leveraging AI for technological and developmental advancements in the creative sector. A series of semi structured interviews will be conducted with relevant people working within the AI realm. The questions to be asked are outlined below:

Questions:

1. Introduce yourself and your work in the creative sector.
2. Can you provide an overview of your background and experience within the creative sector, and how AI intersects with your work?
3. What are your initial impressions of AI, both in a broader sense and specifically within the cultural and creative industries?
4. How do you anticipate the role of AI evolving within your sector of the creative industry in the coming years?
5. What do you perceive as the main opportunities and challenges associated with this evolution?
6. Human-AI collaboration is increasingly prevalent in creative fields. Could you share any personal experiences or insights you've gained regarding collaborations between humans and AI systems within your area of expertise?
7. Can you offer any specific examples or case studies illustrating how AI has been integrated into creative processes or projects within your field or industry?
8. Where do you see the greatest AI disruptions happening? What do you think about these possibilities?
9. Do you see any ethical considerations surrounding AI use? If so, how do you approach them or think others should approach them?
10. From your perspective, what policy measures or initiatives could governments or industry organizations implement to support responsible AI use and innovation in the creative sector?
11. How do you see AI impacting the diversity and inclusivity of creative expression and participation within the cultural and creative industries? Are there any misconceptions or myths about AI in the creative sector that you'd like to address or clarify based on your experiences and expertise?

SACO SURVEY RESULTS

We have run a quick survey of AI's impact on South Africa's creative sector for the past few months, with 157 respondents taking place. This dipstick sentiment survey found that close to 70% of creative workers were excited by the dawn of the AI era. A similar number was already using AI tools in their daily work, and 80% said it has not negatively affected them yet.

12. What do you believe the positive and negative implications of AI to be for society at large, and for the creative and cultural industries in particular?

Still, a significant number, 88% believe we need policy and regulation in place to navigate the AI step-change.

13. What regulations do you believe are needed and for what reasons?

9.4 Survey findings: Artificial Intelligence. Rushed revolution or the holy grail of a creative future

