The Domestication of AI by Kenyan Digital Creators

This note documents the use of AI by digital creators in Kenya, using the lens of domestication theory.

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ABSTRACT

This note explores the adoption and use of artificial intelligence (AI) in Kenya's digital creative sectors. Guided by a lens of domestication theory, and informed by interviews with 21 practitioners, the study documents ways in which AI is transforming traditional workflows, job roles, and skill requirements, enabling increased efficiency, automation, and creativity possibilities. Digital marketers leverage AI-powered analytics tools for data-driven insights and personalized marketing campaigns. Coders utilize AI algorithms to optimize code development, enhance software testing, and streamline debugging processes. Graphic designers incorporate AI tools for image recognition, automated design generation, and enhanced visual effects. Ghostwriters embrace AI-based writing assistants for generating content, improving productivity, and meeting client demands. Importantly, the study identifies concerns among professionals regarding job security, ethical implications, and the need for upskilling to effectively collaborate with AI technologies.

CCS CONCEPTS

• : **Social and professional topics**; • **Professional topics**; • **Computing and business**; • **Socio-technical systems**; • **Social and professional topics**; • **Economic Impact**;

KEYWORDS

Domestication, ICT4D, AI, Livelihoods

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1 INTRODUCTION

Artificial intelligence ("AI") tools are spreading rapidly across professional and social settings. This note highlights the Kenyan context and the exceptional group of digital creators who are at the forefront of AI adoption in Kenya.

The study uses domestication theory to analyse how coders, graphic designers, ghostwriters, and digital marketers have adapted their workflows to AI. To the benefit of the HCI research community, these conversations demonstrate innovation, shifting the narrative away from passive "impacts" of AI on humans towards dynamic interactions between AI and its users. The findings inform Kenyan and international AI policy by recognising the need for training and informal learning pathways, each essential to equipping young digital professionals with AI abilities to support their careers.

The year 2023 was crucial in the ongoing evolution of the sociotechnical systems underpinning the global digital economy, with non-technical users accessing large language models (LLMs) and generative AI for the first time through applications like ChatGPT and Midjourney. The digital creators' changing workflows, documented in this study, reflect a "future of work" that is still being negotiated, raising crucial considerations about inclusion and possibilities for young Africans in the AI-driven future.

2 PROBLEM STATEMENT

Nairobi, often referred to as the Silicon Savannah [5], is a global tech hub where creators have embraced AI-powered tools, transforming fields like coding, graphic design, ghost-writing, and digital marketing. The Kenyan government's 2023 finance bill [14] proposes taxing digital content creators, highlighting the rapid growth of digital platforms. However, there is no consensus and indeed very little data (scholarly or otherwise) about whether the availability of AI tools will help or harm Kenya's digital creative sector. This note engages with these concerns by examining how Kenyan digital creatives are adapting their livelihoods to work with AI - one facet of a broader tapestry of stories about how AI will transform the so-called "future of work".

3 RELATED WORKS

Our definition of AI is comprehensive, encompassing established systems in robotics, expert systems, machine vision, natural language processing, and machine learning, as well as emerging applications built on large language models. In essence, the "AI" we discuss is the set of AI tools currently available to Kenyan digital creators.

3.1 AI use by digital creatives

The integration of AI into digital work has revolutionized content creation, interaction, and consumption, substantially enhancing efficiency and productivity. This paradigm shift has spurred discussions concerning the essence of creativity and how creative professionals harness AI tools to elevate their workflows [8].

3.2 Domestication theory

Domestication theory [4] is an approach spanning media studies, critical theory, and science and technology studies which focuses on how individuals incorporate technologies into existing practices, make new practices, and in turn help shape both the technologies themselves, and the 'meanings' individuals and societies ascribe to those technologies, It is one of several 'social shaping of technology' approaches [7] that eschew passive framings of technology's 'impact', and instead stress dynamic interplays between users, technologies, and structures. A systematic scan of the ACM library suggests that researchers in the HCI and ACM communities have applied domestication theory to this effect, in residential cases [1, 2, 13] and in professional workplace settings [6, 11]. Thus, it is a useful frame to make sense of a changing technology landscape in which digital creators are reinventing then practices through which they earn a living.

4 METHODOLOGY

We conducted 21 interviews with experts in online writing, software engineering, digital marketing, and graphic design. These semi-structured interviews were conducted with prior consent, and we recorded and analysed the semi-structured interviews to extract themes and sub-themes using the Dovetail coding software. Participants were selected from various regions across Kenya to ensure diverse viewpoints on AI adoption in the Kenyan context.

We coded using a three-part framing of domestication theory following [12], which involves (a) constructing practices related to AI, (b) creating meaning, and (c) understanding cognitive processes related to learning practices and meaning. Additionally, we explored individuals' perspectives on their roles, sectors, and Kenya as a whole.

To address a theme not covered by domestication theory but essential to our study — earnings — we added relevant codes based on the sustainable livelihoods framework [10]. This inclusion helps connect our research to the broader discourse on AI's impact on the future of work, encompassing job creation and livelihood changes.

5 RESULTS

We first report participants' experiences with AI via an application of the domestication lens. We then offer observations on how AI use may vary across different sectors, particularly on the matter of expected earnings.

5.1 Domestication

5.1.1 Changing practices. Study participants described changing practices to accommodate and use AI tools, adopting scheduling tools, advanced search through chatbot interfaces, and other tools to increase productivity and augment their own skills.

> "Sometimes when I'm not sure about... my code, I just write the prompts as a hashtag, put a comment within my editor and it will populate some sensible...code or next step forward" [Participant 2]

Participant 21 highlighted ChatGPT's time-saving advantages in content generation. Other AI products mentioned included Grammarly, Turnitin, Quillbot, Chegg, Coursehero, Writesonic, Mind Maps, and Speechify, offering services such as content creation, translation, grammar checking, plagiarism detection, and navigation assistance. Participant 8 acknowledged the effectiveness and professionalism of AI in overcoming language barriers.s

> "English is my third language, after Kiswahili and Kikuyu. I use tools like Grammarly." [Participant 8]

Seasoned users, with stable income sources, value premium editions and can afford the subscription fees. Participant 11 reported opting for freemium versions, while others find ways to keep costs down.

> "No, I don't pay. They are free. I can't afford to pay like something with dollars. I just have to point to a free version. For such GPT, I use a telegram bot that's usually free. It has a lot of tokens. So yeah, we just find a way to navigate through the paid option." [Participant 5]

A reliance on AI tools may be crowding out other work practices, with some participants suggesting reading is slowly dying out, creativity is ebbing away, and laziness is being subtly encouraged.

> "It is like we're forgetting the art of Googling stuff and having to read through a bunch of sites because you can just get the answer straight up. I'm worried about my future skills in desktop research." [Participant 2]

Kenyan Digital Creators use AI to boost productivity, improving communication and automating tasks. Yet, it's not without drawbacks, participants report challenges with Kenyan keywords and unreliable AI-generated content.

5.1.2 The construction of meaning. The second element in domestication involves the ongoing construction of meaning—people have to make sense of new technologies, and their symbolic role in life and society. In this vein, participants perceived AI as a valuable assistant and recognized its potential to address societal issues. While opinions varied on AI's resemblance to humans, participants admired its capabilities. They hoped for AI to align with Kenyan culture and become more personalized, suggesting the incorporation of localized data to create a more authentic Kenyan experience.

> "AI is like you see this class teacher in class four who used to ensure that you've written your composition well. AI is that intelligent mother that wants the best for me. That's what AI is like for me" [Participant 8]

> "Powerful.....it's like a man with a gun" [Participant 1]

Using the local dialect Sheng in AI interactions fostered a sense of social belonging.

> "Niaje, uko poa? It could write in swahili, I swear, it felt like a real cousin" [Participant 8] [Translated:How are you, are you fine?]

Participants expressed both fascination and apprehension. Responding to our queries about 'How AI Makes Me Feel' and 'AI as a Helper,' several participants expressed curiosity and amazement at AI's abilities. Participant 21 cited AI's valuable role in aiding with a fellowship application, and Participant 8 considered AI as a virtual friend and supportive partner.

> "Yes, it's my affirmation tool. It's my review body. I can say it's my partner, man! It's my virtual partner." [Participant 8]

Some raised ethical concerns arise around intellectual property and data privacy.

> "I've always felt like when I'm using AI tools, I'm exposing my brand to people that I don't know. I don't feel the aspect of confidentiality in that." [Participant 4]

5.1.3 Learning pathways. The third element of domestication is learning pathways – the ways people acquire new skills related to the technology.

Advertisements, industry reps, friends, social media threads, in-class training all exposed Kenyan Digital Creators to AI tools. YouTube seems a popular learning resource for writers, graphic designers, and marketers. Coders reported discovering AI technologies through DevOps networks, with some instances of learning during deadline-driven searches for solutions.

> "I was already following up on Open AI as it was being launched. "[Participant 14]

Like many people, digital creators are motivated to learn when they believe technology can meet their requirements or offer insightful information. In this case learning incentives included curiosity, unadulterated interests, and a pressing need to meet a deadline.

> "I'd say the first product that I ever delivered was built using AI. So I already had a lot of interest in AI and had a lot of interest in companies that sponsor AI." [Participant 13]

5.2 AI and prospects for livelihoods and future earnings

Though we spoke to four kinds of digital creators, our samples in this small study were too small for us to be able to reliably discern differences between the prospects for earning across each of the four sectors—a quantitative survey would be better suited for that. However, we were able to surface different themes.

The bulk of the participants in this exploratory study were optimistic about their future livelihoods, focused on how AI could augment their own productivity and help them earn more, either as freelancers or within their jobs

> "AI will help a lot of Kenyans, especially in the gig sector, to get jobs." [Participant 3]

> 'It makes me sound clever in my work" [Participant 5]

A few expressed unease and concern about AI's possibility to replace them and the value they created

> "AI can do a lot, a lot. Which means automating the processes, which translates to the people that used to

do that, getting laid off. So, there's the issue of job security" [Participant 18]

And some, perhaps, shared our perspective that the dynamics are too complex—that it is too early to tell

> "You can produce things faster, yes, it's going to translate to more money, but you also have to look to the fact that now everyone has their tools, so the demand will get lower and the supply will be higher because more people are being able to produce products faster. So it will translate to more money, but in a different kind of way because you can't use it traditionally. You have to be creative and innovative on how you utilize AI to make money. So you have more money, but in quite a different way." [Participant 14GD]

We surface these three perspectives and intentionally end the presentation of results with this complexity, as a way to transition to the discussion, in which we unpack how, though the domestication lens, an awareness of these adaptations, symbolic understandings, and leaning pathways can help designers, policymakers, and the HCI community shape a digital economy in which AI supports, rather than displays, the value created by people like the digital creators we spoke to.

6 DISCUSSION

This study, and this note, is not about advancements in AI as a technology, but rather on how people are leaning to live and create with AI. Applying the domestication lens to our discussion data allowed us to document the evolving relationship between digital creatives and AI systems. Though their adaptations, interpretations, and skills acquisition, these digital creatives are actively shaping AI's role in Kenya's participation in the global digital economy.

6.1 Reflections on Kenya/Africa use of AI

By considering the unique contexts and economic landscapes of young Kenyan digital creatives, this analysis is useful is as part of an ongoing broader effort to establish 'African Identity for HCI'. Participants stressed the importance of contextualized AI tools that integrate social, cultural, and emotional elements into innovation, aligning with analyses in Namibia that address the impact of language on technology production [3].

Our discussions with participants highlight the need for inclusive design, recognizing the gap between universal paradigms and local knowledge systems. Concerns raised by five participants reveal biases in AI tools arising from various sources, including biased training data, algorithmic limitations, and societal biases inherent in the data. Proactively addressing these concerns allows us to harness AI's transformative potential while ensuring unbiased utilization across diverse contexts.

6.2 Opportunities for training and upskilling

Through the domestication lens, we uncovered the learning pathways for acquiring AI skills. Informal sources like online forums, social platforms, and peer learning are just as important for acquiring AI skills than formal education or professional programs.

They emphasized the importance of continuous learning and skill enhancement in integrating AI into their workflows.

Our recommendations include collaborations, partnerships, and hands-on projects/hackathons to promote early adoption of AI skills. Ajira, a government initiative [15], provides cost-effective AI-enabled training and job prospects. Regular curriculum updates are essential to stay current with evolving AI trends and empower learners in the examined professions and beyond.

6.3 Future Research

This exploratory study, based on qualitative interviews with 21 participants, serves as a valuable starting point for further investigation, which might consider the following avenues:

Quantitative Surveys: Conducting representative surveys within Kenya's digital creative sectors would yield specific insights into the intricate relationship between AI use and digital livelihoods, and the extent to which AI has transformed traditional workflows, job roles, and skills.

Pedagogical Exploration: Exploring effective pedagogies and technological support structures that enhance creators' productivity through AI tools is essential. Building on the domestication lens, future inquiries can draw from contextual and user-centered design principles.

Identity and Inclusion: Future research should explore these dimensions more deeply, including gender perspectives, class mobility, and the perception of technology's "Kenyan-ness." Postcolonial perspectives on Human-Computer Interaction and Computing [9] will offer valuable insights into these areas.

7 CONCLUSION

This work highlights the rapid adoption of AI technologies by Kenyan creators—digital marketers, ghostwriters, and graphic designers. It makes two primary contributions: using domestication theory, it underscores the dynamic and contextually situated nature of technology adoption, and it provides insights into augmenting AI skills through both informal and formal channels. Participants shared a generally positive outlook on AI's role in the workplace and the economy. While these early insights are encouraging, the ever-evolving interplay of users and technologies like AI necessitates continuous research and adaptation in Kenya's digital economy and beyond.

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APPENDIX

Participant Profiles

Occupation	Pseudonym and role
Coding	1. Baraka (Male), is a 25 year old working in an Organization using AI to enhance Agriculture
Coding	2. Jabali (Male), 28, freelance coder.
Coding	3. Pendo (Female), 29, a code instructor and mentor at a learning institution and at a finance institution.
Coding	4. Furaha (Male), 32, freelance Android developer.
Coding	5. Abedi (Male), 27, Web developer at freelance online platforms.
Ghost Writing	1.Aziza (Female), 19, a 2D and 3D data entry specialist at a data company.
Ghost Writing	2. Johari (Male), 23, coder at an agriculture startup
Ghost Writing	3 . Nia (Male) 28, ghostwriter on online writing platforms and a social worker at a rehabilitation organization.
Ghost Writing	4. Malaika (Female) 32, self-employed ghostwriter on fiverr.
Ghost Writing	5. Amani (Female), UX Researcher at a software making company and a freelance writer on online writing platforms.
Digital Marketing	1. Sadiki (Female) 30, chef and a restaurant owner in Nairobi.
Digital Marketing	2. Karanja (Male), 28, freelance photographer and social media manager for an overseas company.
Digital Marketing	3. Omari (Male) 29, freelance digital marketer and stage actor at a theater production company.
Digital Marketing	4. Kadija (Female) 30, freelance digital marketer and film maker.,
Digital Marketing	5. Safia (Female) 25, freelance digital marketer, Brand manager, content creator and developer in freelance job platforms.
Graphic Design	1. John (Male) 32, a photographer and UX Designer at a design company.
Graphic Design	2. Khari (Male) 30, leading UX Designer at a Biotech company overseas.
Graphic Design	3. Dalila(Female) 28, a communication and publication specialist and a musician.
Graphic Design	4. Amani (Male) 26, UX Designer at an African freelance professional platform and a crypto trader.
Graphic Design	5. Adimu (Male) 27, Freelance designer and developer relations expert at an IT organization in Nairobi.
Graphic Design	6. Akili (Female), 26, freelance graphic designer.