

· UNIVERSITY OF SOUTH AFRICA INNOVATION WEEK - KEYNOTE

Rooted to Rise

African Knowledge as the Catalyst for Digital Transformation

Theme: Catalysts for Change

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*Think about the last research paper you wrote.
How many of the theories you cited were developed in Africa,
about Africa, by Africans?*

We have satellites. We have universities. We have brilliant minds.

And we are still explaining our own societies using someone else's maps.

The most powerful catalyst is not a new technology.

It is knowledge

*African knowledge, theorised by Africans, built from African reality,
deployed in service of African people.*

Indigenous theories

African epistemology

Local solutions

1

The Dependency Problem

What holds African research back

2

African Knowledge is Foundational

Ubuntu, oral systems, indigenous governance

3

African Theories in Practice

Six scholars who changed the field

4

DT Needs African Intelligence

M-Pesa, AI, data governance

5

The Catalyst Is You

A direct call to action

PART ONE

The Dependency Problem

Three structural forces that shape and constrain African research

THREE STRUCTURAL CONSTRAINTS

Forces that shape and limit how African research gets done

01

Theoretical Dependency

TAM, Diffusion of Innovations, Actor-Network Theory — applied wholesale to African contexts without interrogating their cultural assumptions.

Africa becomes a test case, not a theory-generating site.

"We treat Western theory as the standard, and African reality as the deviation."

02

Data Colony Risk

Africa generates vast data — mobile transactions, health records, urban movement. But who harvests it? Who holds the intellectual property?

Knowledge derived from African experience flows out and returns as a product we must pay for.

This mirrors the resource extraction patterns of colonialism.

03

The Publication Trap

African researchers are assessed by publications in journals shaped by Western epistemological assumptions.

The result: downplaying local, indigenous, contextual dimensions because they are seen as 'local interest,' not 'theoretical contribution.'

We learn to write for audiences that were never designed for our contexts.

Naming the epistemic system we are working inside



Achille Mbembe

Wits Institute for Social and Economic Research · University of the Witwatersrand, South Africa

KEY WORKS

- ▶ On the Postcolony (2001)
- ▶ Critique of Black Reason (2017)
- ▶ Out of the Dark Night (2021)

THEORY: Epistemic Monoculture

"A single knowledge system becomes so institutionally dominant that alternatives are rendered invisible, not disproven, but erased by power."

WHAT THIS MEANS FOR IS RESEARCH

The dependency problem is not about bad intentions. Journals, funding bodies, and promotion criteria enforce one way of knowing while making others invisible. Mbembe gives us the language to name and challenge this system, which is the prerequisite for changing it.

PART TWO

African Knowledge is Not a Gap to Fill

*Indigenous knowledge is not what Africa had before modernity.
It is what Africa has — living, evolving, and waiting to be taken seriously.*

Umuntu ngumuntu ngabantu

I am because we are

Ubuntu is not merely ethics. It is an epistemology, a claim about the nature of knowledge itself. Knowledge is relational, contextual, and produced through community. This has direct, radical implications for how we design and study information systems.

Relational knowing

Communal epistemology

Scholar: Prof. Mogobe Ramose · UNISA · African Philosophy Through Ubuntu (1999)

What this means for IS

Information systems built on individualist assumptions fail in Ubuntu-centred communities. Knowledge management that treats knowledge as privately owned, and incentivised to share misses the point entirely.

What this means for DT

Digital transformation initiatives that ignore Ubuntu logic i.e communal decision-making, relational trust, collective benefit are designed to fail. Ubuntu is not a constraint on DT. It is the design brief.

TWO FURTHER INDIGENOUS FOUNDATIONS

Africa's knowledge architectures that predate — and can inform — modern IS practice

Oral Knowledge Systems as Information Architecture

- ▶ Built-in redundancy — knowledge stored across multiple people and forms
- ▶ Retrieval mechanisms — ritual, performance, proverb make knowledge memorable
- ▶ Access controls — role-based and lifecycle-based knowledge governance
- ▶ Griots, praise singers, oral historians are information professionals

These are not primitive alternatives to written systems. They are sophisticated architectures we have barely begun to theorise formally.

African Governance Models as Co-Design Templates

- ▶ Kgotla (Botswana) — open community deliberation and consensus
- ▶ Indaba (Zulu tradition) — multi-stakeholder structured dialogue
- ▶ Gacaca (Rwanda) — community-based participatory justice
- ▶ Imbizo (Southern Africa) — public assembly and collective decision-making

We cite Scandinavian participatory design from the 1970s. We do not cite the Kgotla. This is a choice — and it is a choice we can unmake.

PART THREE

African Theories in Practice

Six scholars who built new knowledge from African ground and what it means for Information Science and Digital Transformation

AFRICAN THEORIES & THEIR CONTRIBUTION

Examples of African scholarship shaping information science & digital transformation

MR

Mogobe Ramose

UNISA, South Africa

Ubuntu Philosophy · 1999

WHAT THEY DID

Argued Ubuntu is not just ethics but a full epistemology — redefining how knowledge is produced, shared and validated in African contexts.

FOR IS & DT

Informs communal knowledge management systems & participatory IS design.

AM

Achille Mbembe

Wits University, SA

Epistemic Monoculture · 2001–2017

WHAT THEY DID

Showed how a single Western knowledge system dominates globally — not through argument, but through institutional power — crowding out African ways of knowing.

FOR IS & DT

Explains why African IS research defaults to Western frameworks even when African ones exist.

SN

Sabelo Ndlovu-Gatsheni

Univ. of Bayreuth / formerly UNISA

Epistemic Freedom · 2018

WHAT THEY DID

Coined 'epistemic freedom' — the right of African scholars to theorise from African traditions without deference to Western frameworks.

FOR IS & DT

Rights-based justification for indigenous theorising in IS research.

AB

Abeba Birhane

Mozilla Foundation / Ethiopia

Algorithmic Colonisation · 2020

WHAT THEY DID

Demonstrated that AI systems built on Western data embed Western biases and are deployed across Africa as 'neutral' tools — a new form of colonial imposition.

FOR IS & DT

Critical lens for evaluating AI-driven digital transformation in African organisations.

OO

Oyèrónké Oyěwùmí

Stony Brook University / Nigeria

Invention of Western Categories · 1997

WHAT THEY DID

Showed how Western epistemology imposes its own categories (e.g. the visual gaze, gender binary) onto Yoruba reality where seniority and social relations organise knowledge.

FOR IS & DT

Challenges IS researchers to question whether their analytical categories fit African social structures.

TM

Tshilidzi Marwala

UJ / UN University Rector, SA

African AI & Knowledge Infrastructure · 2018–present

WHAT THEY DID

Argued Africa must build its own AI and knowledge systems — not as consumers of Western tech, but as producers — trained on African data and grounded in African values.

FOR IS & DT

Strategic framework for African-led digital transformation research and policy.



Prof. Mogobe B. Ramose

University of South Africa (UNISA) · South Africa

KEY WORK

- ▶ African Philosophy Through Ubuntu (1999, Mond Books)

THEORY: Ubuntu as Epistemology

Ramose argued that Ubuntu — 'umuntu ngumuntu ngabantu' — is not merely a moral value but a complete philosophy of being and knowing. Knowledge is not individual property; it is produced through relationships, shared through community, and validated through collective experience.

IMPLICATIONS FOR IS RESEARCH

- ▶ Knowledge management systems that treat knowledge as individually owned miss the communal logic of Ubuntu societies
- ▶ Information system adoption in African communities must account for relational trust, not just individual utility
- ▶ Research ethics grounded in Ubuntu go beyond individual consent to community consent and community benefit
- ▶ Data governance frameworks must reflect communal ownership, not just GDPR-style individual rights

Epistemic freedom and algorithmic colonisation

SN

Sabelo Ndlovu-Gatseni

Univ. of Bayreuth / formerly UNISA

Epistemic Freedom

Epistemic Freedom in Africa (2018, Routledge)

Coined the concept of 'epistemic freedom' — the fundamental right of African scholars to theorise from within African epistemological traditions, without being required to validate their work against Western frameworks. His work exposes how epistemic injustice operates structurally: through curricula, citation networks, and journal gatekeeping.

IMPLICATIONS

- ▶ Justifies African-centred theorising as a scholarly right, not a political preference
- ▶ Challenges the assumption that Western peer review is an objective standard
- ▶ Opens space for Ubuntu, Hunhu, and other African concepts as primary theory

AB

Abeba Birhane

Mozilla Foundation · Ethiopian-Irish scholar

Algorithmic Colonisation

Algorithmic Colonization of Africa (2020, SCRIP Ted)

Demonstrated that AI systems trained predominantly on Western data embed Western cultural assumptions, biases, and power relations — and are then deployed across Africa as supposedly universal, neutral tools. This is algorithmic colonisation: a new form of epistemic imposition operating at machine scale.

IMPLICATIONS

- ▶ AI trained on Western data cannot represent African contexts — it misrepresents them
- ▶ Facial recognition, NLP, and predictive systems built for the West fail — sometimes dangerously — in African contexts
- ▶ African DT must insist on African training data, African validation, African governance

Category invention and African artificial intelligence

OO

Oyèrónkẹ Oyěwùmí

Stony Brook University · Nigeria

Invention of Western Categories

The Invention of Women (1997, Univ. of Minnesota Press)

Demonstrated that Western scholarship imposes its own sensory and social categories onto African realities. In Yoruba society, knowledge is organised around seniority and social relations not around the visual gaze or gender binary that Western epistemology takes for granted. These are not African realities. They are Western projections.

IMPLICATIONS

- ▶ IS researchers must question whether their analytical categories fit the social reality being studied
- ▶ Systems designed around Western notions of user identity may be fundamentally misaligned in African contexts
- ▶ Gender, privacy, and authority may be organised very differently — research must engage with that difference

TM

Tshilidzi Marwala

University of Johannesburg · UN University Rector, SA

African AI & Knowledge Infrastructure

Handbook of Machine Learning (2018) + public scholarship

Argued that Africa must build its own artificial intelligence and knowledge infrastructure, not as consumers of Western technology, but as producers. African AI must be trained on African data, reflect African social values, serve African needs, and be governed by African institutions. Dependency on imported AI is a form of technological colonialism.

IMPLICATIONS

- ▶ AI literacy in Africa must be grounded in African contexts and African challenges
- ▶ Data collected in Africa should be processed, governed, and interpreted in Africa
- ▶ Africa's leapfrog potential in AI requires African investment in data, compute, and talent

Concrete, actionable changes that any IS researcher can make

01

Research Questions

Shift from:
'Does theory X apply here?'

To:
'What African concept explains this phenomenon on its own terms?'

Africa as theory-generator, not just a test case.

02

Theoretical Toolkit

Replace or supplement Western frameworks:

- ▶ Ramose → Ubuntu epistemology
- ▶ Ndlovu-Gatsheni → Epistemic freedom
- ▶ Mbembe → Epistemic monoculture
- ▶ Birhane → Algorithmic justice

03

Methodology

- ▶ Ubuntu-based research ethics: community consent and community benefit
- ▶ Storytelling and narrative as legitimate data
- ▶ Participatory action research grounded in African communal traditions
- ▶ Publish in forms accessible to the communities you study

04

Conceptual Language

When Ubuntu, Kgotla, Hunhu, or Harambee best explains your finding, use that name. Not as decoration. As your theoretical foundation.

Every time you choose an imported term over an African one, you make a theoretical decision. Make it consciously.

PART FOUR

Africa's Digital Transformation Needs African Intelligence

African innovations. Explained by African theory. Built with African knowledge.

Africa inventing digital transformation, not copying it

M-Pesa · Kenya

Mobile money that changed the world

Did not emerge from a Silicon Valley roadmap. It emerged from a specific African context with low banking penetration, high mobile penetration, and strong networks of informal economic trust. It solved an African problem using African ingenuity.

African problem, African solution, African logic.

Township Entrepreneurship · SA

WhatsApp as supply chain infrastructure

Entire supply chains built on WhatsApp groups; coordinating suppliers, customers, deliveries and payments through a messaging tool never designed for that purpose. Because formal infrastructure was absent, informal community-driven systems filled the gap.

African ingenuity operating in the gaps formal systems leave open.

E-Government · Rwanda

Context-specific digital state

Built with remarkable speed and ambition, drawing on a specific political and social context entirely Rwandan in its logic. Cannot be copy-pasted anywhere else, because it was designed from inside its own reality, not imported from outside.

Context-specific design produces context-specific success.

*"We are using the wrong map to describe territory
that the map was never intended to chart."*

- ▶ African innovations studied through Silicon Valley frameworks
- ▶ African organisations evaluated by European public sector criteria
- ▶ African communities assessed as 'not ready' — when the mismatch is in the theory, not the people

The barrier is not the users. The barrier is the mismatch between the technology, the theory, and the context.

What African IS researchers must do differently

Centre African Users as Knowledge Producers

Ask what communities already know about organising information, making collective decisions, and building trust. Amplify those capabilities, don't replace them with foreign ones.

Design in African Languages

South Africa has 11 official languages. Any IS or DT system that operates only in English is, by design, excluding the majority. This is not a neutral technical decision, it is a political one.

Build Communal Data Governance

GDPR assumes individual data rights. African communities need frameworks that account for collective data ownership i.e Ubuntu jurisprudence, communal land rights, and cultural heritage law are the starting points.

Theorise from Home

Train the next generation to build from African intellectual tradition, not to import frameworks but to generate them. Every African-centred paper adds to a growing tradition.

UNISA is the largest university on the African continent.

*The research produced in this department does not stay in Pretoria.
It shapes how information science is taught and practised across Africa.*

*"You are not on the periphery of global Information Science.
You are at the centre of African Information Science
which, if we get this right, will reshape global Information Science."*



PART FIVE · CLOSING

The Catalyst Is You

A direct, personal call to action

One commitment. Three steps. Starting with your next research project.

In your next research project —

①

Identify one African concept

Place it at the centre of your theoretical foundation, not in the conclusion as a suggestion for future research. Not in the limitations. At the centre.

②

Apply it with full rigour

Test it. Build from it. Defend it with the same intellectual vigour you would bring to defending a Western framework. Prove it can carry the weight.

③

Publish it

Put it in the literature. Submit it to journals. Add it to the scholarly conversation. Because that is how intellectual traditions are built. one act of courage at a time.

Intellectual traditions are built not by one grand intervention, but by the accumulation of individual acts of intellectual courage.

"The world does not need Africa to catch up.

*It needs Africa to show up
on its own terms, with its own knowledge,
solving its own problems.*

That is the transformation.

And you are the catalyst."

CORE REFERENCES

Key African and decolonial scholars cited in this talk

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Thank you.

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DISCUSSION · Q&A

Questions to open the conversation

Q1

What stops you from using indigenous frameworks in your research — and what would it actually take to change that?

honest reflection on structural vs personal barriers

Q2

Where do you see the biggest gap between African DT realities and the theories we currently use to study them?

Q3

Are there African concepts or knowledge systems you have wanted to build research from — but have held back? Why?

Opens space for vulnerability and solidarity

Q4

What would an African-designed information system look like — if we started from Ubuntu, not from a Western product spec?

Forward-looking, constructive, and imaginative