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Entrepreneurial Creativity for Agricultural Transformation in Africa: Lessons for Policymakers from the Hello Tractor Case

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Entrepreneurial creativity drives innovation and growth in Africa's agriculture. This article examines how Hello Tractor, a leading agritech enterprise, leverages digital platforms, creative business models, and strategic partnerships to improve mechanization access for smallholder farmers. By connecting tractor owners and farmers through mobile technology, Hello Tractor addresses long-standing productivity barriers and fosters inclusive growth. The case offers actionable lessons for policymakers and development agencies on enabling digital agriculture through supportive infrastructure, inclusive financing, and resilient public-private partnerships while highlighting challenges such as limited digital literacy and policy instability that threaten sustainable transformation.

INTRODUCTION

Agriculture remains the backbone of most African economies, employing over 60% of the population and contributing significantly to food security, rural livelihoods, and economic growth. Yet, persistent challenges including low productivity, limited mechanization, poor infrastructure, and climate vulnerability continue to constrain its potential (Haggblade, Minten, Pray, Reardon, & Zilberman, 2017). Traditional approaches, including subsidies and state-led mechanization schemes, have often failed to achieve inclusive, sustainable agricultural transformation, particularly for smallholder farmers who dominate Africa's agricultural landscape.

Entrepreneurial creativity, defined as the capacity to generate novel and practical solutions to complex problems (Kanter, 2006), has emerged as a critical driver of change in this context. By fostering innovation and leveraging technology, entrepreneurial creativity enables small and medium-sized enterprises (SMEs) to design scalable solutions, overcome systemic barriers, and unlock new opportunities for agricultural growth and rural development.

This paper examines Hello Tractor, a pioneering African agritech enterprise that has transformed access to farm mechanization through a "tractor-hailing" platform. By linking farmers with tractor owners via mobile technology, Hello Tractor has reduced the prohibitive costs of machinery ownership, increased productivity, and improved service delivery for smallholder farmers across multiple African countries (Daum & Birner, 2020).

Unlike traditional mechanization programs, Hello Tractor combines business model innovation, digital technologies, and strategic partnerships to deliver an inclusive, scalable solution. Importantly, its model provides rich policy lessons on how governments and development agencies can support agricultural digitization, rural financing, and innovation ecosystems.

Focusing on policymakers and development agencies as the primary audience, this article draws actionable insights from Hello Tractor's experience for designing enabling policies, strengthening rural infrastructure, fostering resilient public-private partnerships, and ensuring that digital agriculture initiatives promote inclusive and sustainable growth.

Entrepreneurial creativity is a cornerstone of innovation, scalability, and inclusive growth for Africa's agricultural small and medium-sized enterprises (agro-SMEs). The Hello Tractor case demonstrates how creativity, when coupled with digital technologies and strategic partnerships, can address deep-seated structural barriers to agricultural mechanization. Three core insights emerge from Hello Tractor's experience, offering valuable lessons for policymakers and development agencies.

BUSINESS MODEL INNOVATION AND DIGITAL FINANCING OPPORTUNITIES

Access to mechanization has long been a major constraint for African smallholder farmers due to the prohibitive cost

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of tractor ownership and limited availability of affordable rental services. Traditional government-led mechanization schemes often struggle with inefficiency and inequitable distribution, leaving many rural communities underserved (Diao, Hazell, & Thurlow, 2019).

Hello Tractor addressed this gap by creating a “tractor-hailing” platform that operates similarly to ride-hailing services. Farmers can request tractors on a pay-per-use basis via mobile phones, while tractor owners generate income by renting out idle equipment. This model has increased equipment utilization, reduced costs, and improved service availability.

From a policy perspective, Hello Tractor’s digital records have significant implications for rural finance. By tracking tractor usage data including farm size, frequency of services, and productivity outcomes, the platform creates verifiable digital credit histories for smallholder farmers and cooperatives. Policymakers and financial institutions can leverage these records to design innovative financing products, such as low-interest loans or credit guarantees for mechanization. This data-driven approach reduces lending risk and enables financial inclusion for populations historically excluded from formal credit systems.

For example, governments could collaborate with banks to link tractor usage records to national agricultural credit schemes, incentivizing both tractor ownership and service provision. In this way, entrepreneurial creativity not only drives business model innovation but also strengthens the broader financial ecosystem supporting rural development.

TECHNOLOGY-DRIVEN SOLUTIONS FOR EFFICIENCY AND INCLUSION

Hello Tractor’s success is underpinned by its innovative application of Internet of Things (IoT) and Artificial Intelligence (AI) technologies. IoT-enabled devices installed on tractors provide real-time data on machine location, usage, and performance. AI-driven analytics then use this data to predict maintenance needs, optimize service delivery routes, and forecast demand across regions (Rotz et al., 2019).

These technologies enhance operational efficiency, reduce downtime, and ensure that tractors are deployed where they are most needed. Importantly, they also increase transparency for policymakers, who can use aggregated data to monitor regional mechanization gaps and target infrastructure investments more effectively.

However, technology adoption poses risks of digital exclusion. Farmers with limited connectivity or low digital literacy may struggle to access services. Hello Tractor has begun to mitigate these barriers by offering SMS-based booking systems and developing offline app features for areas with poor internet coverage. Policymakers can complement these efforts by investing in rural broadband infrastructure and supporting digital literacy programs to ensure equitable access to agricultural innovations.

SCALABILITY THROUGH STRATEGIC PARTNERSHIPS AND LOCAL ADAPTATION

A major driver of Hello Tractor’s rapid growth has been its ability to build partnerships across the agricultural ecosystem. Collaborations with global machinery manufacturers, financial institutions, NGOs, and government agencies have allowed the company to expand into more than 13 African countries (AGRA, 2021). Notably, its partnership with John Deere has provided credibility and access to high-quality equipment, while collaborations with microfinance institutions have helped farmers overcome financial barriers to mechanization.

However, such partnerships are vulnerable to political shifts and policy instability. When governments change priorities due to elections or regime transitions, programs supporting innovation may lose funding or institutional backing. To mitigate these risks, policymakers should design multi-level, resilient partnerships involving local governments, farmer cooperatives, and private sector actors. Clear governance frameworks and shared accountability mechanisms can help sustain innovation beyond short-term political cycles.

Scalability also depends on adapting to local agricultural practices and cultural norms. Agricultural needs vary widely across regions due to differences in soil types, climate, and crop cycles. In some contexts, adaptation accelerates adoption by aligning services with established practices. In others, introducing new mechanization norms may slow growth due to resistance or training gaps. Policymakers must therefore support context-specific adaptation strategies, ensuring that scaling efforts are inclusive and responsive to local realities.

While the sections above discuss each insight in detail, [Table 1](#) provides a concise summary of the key lessons and corresponding policy implications for quick reference.

RISKS AND CHALLENGES: CONSIDERATIONS FOR POLICYMAKERS

While Hello Tractor’s innovative model has demonstrated the transformative potential of entrepreneurial creativity, its scaling journey has also revealed critical risks and challenges that policymakers must address to ensure sustainable and inclusive agricultural transformation. These risks fall into the following four interrelated categories.

DIGITAL CONNECTIVITY GAPS

Limited internet and mobile network coverage remain significant barriers in many rural African regions. Farmers in remote areas often face unreliable connectivity, which disrupts their ability to book tractor services or receive timely updates.

Table 1. Summary of Entrepreneurial Creativity Insights and Policy Implications from the Hello Tractor Case.

Theme / Insight	Key Message	Policy Implication
Business Model Innovation	Hello Tractor's "tractor-hailing" model enables affordable mechanization access.	Governments can integrate digital data into agricultural finance programs.
Technology and Inclusion	IoT and AI enhance efficiency but risk digital exclusion.	Invest in rural broadband and digital literacy.
Partnerships and Adaptation	Public-private collaborations drive scale but need stability.	Design resilient, multi-level partnerships with local actors.

DIGITAL EXCLUSION AND EQUITY CONCERNS

Digital platforms, while efficient, risk excluding less tech-savvy farmers, particularly women, older adults, and marginalized groups with lower digital literacy.

FRAGILITY OF PUBLIC-PRIVATE PARTNERSHIPS

Hello Tractor's growth relies heavily on partnerships with government agencies, NGOs, and private companies. However, these partnerships are vulnerable to shifting political priorities.

FINANCIAL AND OPERATIONAL SUSTAINABILITY RISKS

While Hello Tractor has created new financing opportunities, scaling depends on consistent revenue streams for both tractor owners and farmers. External shocks such as climate-related crop failures or global price volatility can disrupt these financial flows.

POLICY IMPLICATION

Policymakers should consider risk-sharing mechanisms, such as agricultural insurance programs or government-backed loan guarantees, to protect smallholder farmers and tractor owners from external shocks. These mechanisms ensure continuity of services even in times of crisis.

SUMMARY OF CHALLENGES

Addressing these risks is essential for sustaining the gains of entrepreneurial creativity in African agriculture. Without proactive policy interventions, innovations like Hello Tractor may unintentionally deepen inequalities or falter under political and economic pressures. By anticipating and mitigating these challenges, policymakers can create an enabling environment that supports both technological innovation and inclusive rural development.

POLICY IMPLICATIONS: ENABLING DIGITAL AGRICULTURE THROUGH SUPPORTIVE SYSTEMS

The Hello Tractor case offers critical lessons for policymakers and development agencies striving to modernize Africa's agricultural systems. Entrepreneurial creativity can generate transformative solutions, but its full potential will only be realized within an enabling policy environment.

This section highlights five priority areas where governments and development partners can play a catalytic role.

LEVERAGING DIGITAL RECORDS TO EXPAND RURAL FINANCE

Hello Tractor's ability to generate verifiable digital records of farm activity such as acreage cultivated, service frequency, and yield improvements creates new data streams that can serve as alternative credit histories. These records open pathways for smallholder farmers and cooperatives traditionally excluded from formal lending.

Policymakers can integrate these data into national agricultural credit schemes, enabling banks and microfinance institutions to design tailored financial products for small-scale farmers and tractor service providers. Development agencies can complement these efforts by supporting secure data-sharing protocols that protect farmer privacy while allowing lenders to assess risk more accurately. Encouraging public-private collaboration between digital platforms and rural finance programs will further reduce barriers to mechanization loans and promote financial inclusion. Collectively, these measures align with broader efforts to formalize rural economies and attract long-term investment in agricultural transformation.

STRENGTHENING RURAL DIGITAL INFRASTRUCTURE

Digital agriculture depends on reliable mobile and internet connectivity. Without it, even the most innovative platforms cannot reach scale or achieve equity. Many rural regions still face poor network coverage and high data costs, limiting access to services such as Hello Tractor.

To close this gap, governments should prioritize rural broadband expansion within public infrastructure budgets potentially using universal service funds or tax incentives for telecom operators. Development agencies can offer concessional financing to ensure sustainability and affordability of rural connectivity projects. In parallel, platforms can integrate hybrid solutions such as offline-enabled apps and SMS-based booking systems to reach farmers in low-connectivity zones. Building this digital backbone will not only advance mechanization but also enable a broader ecosystem of agricultural innovation.

DESIGNING RESILIENT PUBLIC-PRIVATE PARTNERSHIPS

Partnerships with governments, NGOs, and agribusinesses have fueled Hello Tractor's expansion across Africa. Yet

these collaborations often remain vulnerable to political turnover and shifting national priorities.

Resilient partnerships require a multi-level design involving local governments, farmer cooperatives, and private sector actors, creating distributed accountability rather than dependence on central authorities. Policymakers should codify partnership frameworks through legislation or multi-year agreements to safeguard continuity, while promoting open data sharing to strengthen transparency and trust. Such institutionalized collaboration ensures that entrepreneurial solutions endure beyond election cycles and donor projects, embedding innovation in stable governance systems.

SUPPORTING LOCAL ADAPTATION STRATEGIES

Agricultural realities differ sharply across Africa, from soils and climate to cropping patterns and cultural norms, so innovation must be context-sensitive. Scaling without local adaptation risks poor adoption or inefficiency.

Policymakers can fund regional adaptation programs that allow digital platforms to tailor services to specific agro-ecological zones. Extension services should be empowered as intermediaries linking national policies with local practice, translating technology into accessible guidance. Encouraging participatory design processes, in which farmers co-create and test solutions, ensures cultural fit and community ownership. By prioritizing local adaptation, governments can accelerate scaling while maintaining inclusivity and effectiveness.

MITIGATING RISKS AND ENSURING INCLUSIVE GROWTH

Digital transformation must not deepen existing inequalities. Policymakers therefore need to address the digital divide, support vulnerable groups, and build safety nets that protect farmers and tractor owners from shocks.

Governments can launch targeted digital-literacy campaigns particularly for women, youth, and marginalized populations to expand participation in digital agriculture. Subsidies or voucher programs can make mechanization services affordable for low-income farmers. Risk-sharing instruments such as crop insurance or state-backed loan guarantees can buffer stakeholders against droughts, price volatility, or other shocks. Together, these measures promote inclusive, resilient agricultural development and ensure that the benefits of innovation extend beyond a privileged few.

SUMMARY OF POLICY DIRECTIONS

By strengthening financing, digital infrastructure, partnerships, local adaptation, and inclusion, policymakers can create an ecosystem in which entrepreneurial creativity thrives. Hello Tractor's experience shows that when supported by coherent policies and investment, Africa's agricultural sector can shift from fragmented, low-productivity systems to digitally enabled, scalable, and sustainable models of growth.

CONCLUSION

The Hello Tractor case demonstrates the transformative power of entrepreneurial creativity in addressing long-standing challenges in Africa's agricultural sector. By combining business model innovation, advanced digital technologies, and strategic partnerships, Hello Tractor has reimaged access to mechanization for smallholder farmers i.e., unlocking productivity gains, increasing profitability, and contributing to food security. Its experience provides compelling evidence that African agro-SMEs can serve as engines of inclusive growth when supported by enabling policies and ecosystem-level collaboration.

For policymakers and development agencies, this case offers clear lessons on how to design environments that nurture and scale such innovations. First, digital data streams generated by platforms like Hello Tractor can be leveraged to expand rural credit access, turning mechanization records into alternative credit histories and strengthening the financial inclusion of marginalized farmers and cooperatives. Second, investment in rural digital infrastructure and digital literacy is essential to ensure equitable access to these technologies, preventing a widening digital divide. Third, resilient public-private partnerships are crucial for sustaining innovation in the face of shifting political priorities, while localized adaptation strategies must be prioritized to account for diverse agricultural practices across regions. Finally, proactive risk mitigation through insurance mechanisms, subsidies, and targeted outreach ensures that the benefits of digital agriculture are inclusive and sustainable.

The broader message of this paper is that entrepreneurial creativity alone cannot transform Africa's agricultural sector. Innovation must be matched by forward-thinking policies, infrastructure investment, and collaborative governance frameworks. By acting on the insights from Hello Tractor, governments and development agencies can play a pivotal role in building a digitally enabled, inclusive agricultural future. Such efforts will not only modernize mechanization but also lay the foundation for long-term rural prosperity and climate-resilient economic growth.

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