

Agripreneurship Skills Training: A Pathway to Attainment of SDG 4 Through Work Integrated Learning in Bayelsa State.

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Abstract

This opinion paper argues that agripreneurship competency training can serve as a practical pathway for advancing Sustainable Development Goal 4 (SDG 4) in Bayelsa State when it is intentionally delivered through work-integrated learning. The paper is motivated by the increasing demand for education that is both inclusive and clearly relevant to livelihoods, employability, and sustainable local development, particularly within contexts where formal employment opportunities remain limited and agricultural value chains remain underutilized for youth enterprise. Conceptually, the paper conceptualizes agripreneurship as a value-creating engagement with agriculture that extends beyond production to enterprise development, market participation, and innovation, while presenting work-integrated learning as the pedagogical mechanism that converts classroom learning into applied competence through supervised practice, reflection, and assessable learning outcomes. The paper further contends that SDG 4's emphasis on quality, relevance, and competence development for work and entrepreneurship legitimizes agripreneurship training as an education-quality strategy, rather than merely a labour-market intervention. The central contribution is a proposed pathway that clarifies core competency domains, outlines viable work-integrated learning structures across the agri-food value chain, and highlights institutional, stakeholder, inclusion, and quality-assurance responsibilities required for credible implementation in Bayelsa State. The paper therefore proposes a partnership-driven, competency-based design approach that education stakeholders can adapt to strengthen SDG 4-aligned learning outcomes through structured agripreneurship practice.

Keywords: Agripreneurship; competencies training; work-integrated learning; SDG 4; Bayelsa State; education quality; employability; entrepreneurship.

INTRODUCTION

The pursuit of inclusive, equitable, and high-quality education is increasingly being interpreted in terms of relevance to lived realities, employability, and sustainable livelihoods, especially in contexts where young people face constrained opportunities for dignified work. Within this framing, Sustainable Development Goal 4 has become a global reference point for rethinking education as a system that should develop practical competencies, widen participation, and strengthen lifelong learning pathways, rather than functioning mainly as certification and progression. This competency-centered interpretation is particularly salient for regions where poverty, fragile labour markets, and informal economic activity shape what education must accomplish in practice, thereby positioning sector-linked training as a legitimate route for advancing SDG 4 outcomes in tangible and locally meaningful ways (United Nations, 2024).

In higher education and related training systems, one of the most frequently advanced mechanisms for improving educational relevance is work-integrated learning, which links academic learning with structured workplace or community practice and formally recognizes these experiences as part of learning. Contemporary scholarship increasingly treats work-integrated learning not as an optional attachment to curricula, but as a design principle that enables learners to develop professional competence, reflective judgment, and work readiness through authentic tasks, supervision, and assessment. By embedding practical exposure within learning design, work-integrated learning is argued to reduce persistent gaps between what learners know conceptually and what they can do in real organizational settings, which is central to education quality in its applied sense (Ferns et al., 2025).

Agripreneurship sits within this broader movement towards applied learning because it integrates agricultural production and value-chain participation with entrepreneurial practice, thereby connecting learning directly to food systems, rural livelihoods, and enterprise development. Evidence from multi-country studies in Africa indicates that structured agripreneurship empowerment programmes can strengthen young people's participation and performance in agriculture-based enterprise by improving capability sets needed for opportunity recognition, resource mobilization, and sustained engagement. This suggests that, when training is well designed and supported, agripreneurship can function not merely as a livelihood alternative, but as a deliberate development pathway that converts education into productive agency and enterprise outcomes (Adeyanju et al., 2023).

Within the SDG 4 agenda, the specific emphasis on strengthening capabilities for employment, entrepreneurship, and decent work reinforces the argument that educational systems should intentionally develop competencies that enable learners to transition into productive life. UNESCO's SDG 4 knowledge resources, alongside its monitoring work, consistently highlight that capability development for work and entrepreneurship is inseparable from the broader quality agenda, because education quality is undermined when graduates remain unable to apply learning in ways that improve their life chances. As a result, training models that integrate competence development with authentic practice environments can be justified not only as labour-market interventions but also as education-quality interventions aligned with SDG 4 (UNESCO, 2024).

In Nigeria, competency-focused training is also increasingly connected to national agricultural transformation ambitions, particularly where policy documents foreground agricultural innovation, technology adoption, and employment generation as priorities that require well-developed human capacity. National agricultural policy directions continue to emphasize that improved productivity and agribusiness expansion depend on developing people who can apply new methods, manage risks, and translate innovation into value-chain outcomes, which implies

an educational role that extends beyond theory to competence and application. This policy logic strengthens the rationale for agripreneurship competencies training that is embedded in real work settings, because such a design directly supports the human-capital conditions required for agricultural transformation and inclusive growth (Federal Ministry of Agriculture and Rural Development, 2022).

In Bayelsa State, the relevance of agripreneurship competencies training is reinforced by ongoing governmental attention to agricultural programming that includes farmer support, technical assistance, and organized training components aimed at improving production and post-harvest outcomes. While these initiatives reflect policy intent, the educational question remains how to design and institutionalize a pathway that systematically links competency development to work-based practice for students and youth, thereby creating a coherent bridge between education providers, agribusiness contexts, and the outcomes expected under SDG 4. Accordingly, this study introduces agripreneurship competencies training, delivered through work-integrated learning, as a practicable pathway for strengthening the relevance and quality dimensions of education in Bayelsa State, and it proposes implementable design directions that education stakeholders can adapt for scalable, partnership-driven delivery (Bayelsa State Ministry of Agriculture and Natural Resources, 2025).

Statement of the Problem

Across many developing contexts, education systems are increasingly expected to deliver learning that is not only accessible and inclusive but also practically relevant to livelihoods, employability, and sustainable development. This expectation has grown stronger as governments and institutions respond to youth unemployment, rising underemployment, and the limited capacity of formal wage sectors to absorb graduates, even where participation in higher education and vocational training is increasing. In Bayelsa State, these pressures intersect with the longstanding significance of agriculture as a livelihood base and as a strategic sector for local economic resilience. Consequently, attention is turning to agripreneurship as a practical pathway for enabling young people and graduates to convert learning into productive enterprise, particularly when learning opportunities are designed to build competencies that can be applied in real-world work and community environments. This contemporary situation makes the question of how education can support agripreneurship through structured competency training and authentic practice timely and significant for learners, educators, policymakers, and local enterprise actors.

Despite increasing policy and institutional attention in entrepreneurship and agricultural development, there remains a persistent gap in the design and delivery of training pathways that explicitly connect agripreneurship competency development to the attainment of SDG 4 through work integrated learning. In practice, many training programmes remain fragmented or poorly coordinated, overly theoretical in orientation, or implemented as short-term initiatives that lack consistent supervision, assessment standards, and clear alignment with educational quality objectives. In the literature, agripreneurship training is often examined as an employment or productivity strategy, while SDG 4 and work-integrated learning are frequently treated as separate concerns, leaving an underexplored intersection where these concepts should converge. What is therefore missing is a coherent and context-responsive framework clarifies the specific agripreneurship competencies that should be prioritized, the work-integrated learning mechanisms through which they can be developed, and the measurable ways such an approach can strengthen educational relevance and outcomes within Bayelsa State.

If this problem remains unresolved, the practical and scholarly consequences are likely to be significant for multiple stakeholders. Learners may continue to graduate without the applied agripreneurship competencies and confidence required to translate agricultural knowledge into viable entrepreneurial ventures, thereby reinforcing cycles of unemployment, reliance on limited public and private sector opportunities, and limited participation in productive value chains. Institutions may invest in curriculum reforms and training initiatives that do not yield sustained impact because they lack authentic work exposure, structured mentorship systems and quality assurance processes that support competence development. For policymakers and development partners, the absence of an integrated pathway may reduce the effectiveness of investments intended to promote youth empowerment, food system development, and inclusive growth, while also limiting the contribution of education to local development priorities. Academically, leaving this gap unresolved sustains conceptual and practical fragmentation in the literature, making it difficult to build cumulative knowledge on how work-integrated learning can function as a mechanism for achieving education-related sustainable development outcomes through sector-specific competency training.

Investigating this problem is necessary now because Bayelsa State requires evidence-informed and implementable approaches that can strengthen the relevance, quality, and outcomes of education in ways that directly support sustainable livelihoods. A focused study can contribute by clarifying the logic and structure of an integrated pathway that aligns agripreneurship competency training with work integrated learning processes, thereby providing practical guidance for programme design, supervision models, assessment strategies, and partnership frameworks between educational institutions and agribusiness contexts. Such an inquiry can also advance scholarly understanding by bridging currently separated strands of discussion and offering a context-grounded model that can be tested, adapted, and scaled within comparable settings. Agripreneurship skills training: a pathway to attainment of SDG 4 through work integrated learning in Bayelsa State.

LITERATURE REVIEW

Conceptual Review

This conceptual review clarifies the main ideas that structure the topic and shows how they connect to the argument that agripreneurship competencies training, delivered through work-integrated learning, can strengthen progress towards SDG 4 in Bayelsa State. It is important to begin with this conceptual grounding because the SDG 4 discourse increasingly frames education quality in terms of effective learning outcomes, equity, and relevance, while also emphasizing competence development for productive participation in society and the economy (United Nations, 2024).

Concept of Agripreneurship

Agripreneurship is commonly understood as entrepreneurship applied to agriculture and agri-food systems, extending beyond farming into opportunity recognition, innovation, and value creation across production, processing, logistics, and market engagement. In contemporary Nigerian-focused literature, agripreneurship is treated as a development-oriented response to youth unemployment and underemployment, because it positions agriculture as a site for enterprise creation, agency, and livelihoods rather than as a residual or low-status sector. In this sense, agripreneurship is not merely participation in agriculture; it is strategic engagement that combines entrepreneurial orientation with sector knowledge and enabling conditions that support viable enterprise growth (Ikebuaku, 2023).

A further conceptual refinement is that agripreneurship is value-chain oriented, meaning that youth participation is influenced by perceptions of where opportunities exist and whether entry conditions are realistic. Studies that examine youth engagement with agricultural value chains show that young people often demonstrate interest in agro-processing and related activities, yet face barriers such as limited information, constrained access to training, and weak alignment between their aspirations and the focus of many existing support programmes. This implies that agripreneurship development requires not only encouragement but also structured competency-building and exposure to value-chain realities so that participation can shift from interest to sustained capability and performance (Geza et al., 2023).

Agripreneurship Competencies Training

Agripreneurship competencies training may be conceptualized as an organized learning process designed to develop the capabilities required for enterprise performance within agriculture-linked markets. These competencies often include opportunity identification, business planning, recordkeeping, market analysis, financial decision-making, product development, and the ability to respond to sector risks and constraints. Empirical work on agricultural training programmes in Nigeria indicates that structured training can improve performance-related outcomes among young participants, suggesting that training becomes more consequential when it targets practical competence development rather than offering generalized entrepreneurship content without sector specificity (Adeyanju et al., 2021).

However, the conceptual literature also highlights that training outcomes are shaped by the broader enterprise ecosystem in which learners and new agripreneurs operate. In particular, youth agripreneurship development is frequently constrained by limited access to land, credit, inputs, insurance, markets, and advisory services, which means that training must be designed with realistic pathways for resource mobilization and support linkages. This framing implies that agripreneurship competencies training should be understood not only as classroom instruction but also as a coordinated pathway that connects learners to enabling structures and sector networks that sustain enterprise development (Babu et al., 2020).

Sustainable Development Goal 4 and Educational Quality

SDG 4 positions education as a foundational enabler of sustainable development and frames “quality” not only as access to schooling but also as the attainment of relevant learning outcomes and equitable participation. Contemporary monitoring discussions emphasize that progress towards SDG 4 has been uneven and that many systems, especially in sub-Saharan Africa, face persistent challenges that undermine learning outcomes, teacher supply and quality, and the infrastructure conditions needed for effective teaching and learning. From a conceptual perspective, this underscores that strengthening education requires approaches that enhance relevance, competence development, and the capacity of institutions to deliver learning that translates into meaningful life outcomes (UNESCO, 2024).

A key SDG 4 emphasis is that education should strengthen competencies for employment, decent work, and entrepreneurship, which extends the meaning of “quality” into questions of livelihood relevance and transition outcomes. SDG 4 benchmarking and scorecard resources reinforce the policy expectation that education systems should set measurable targets and build accountability for progress, including aspects tied to learning environments and workforce readiness. Within this framing, sector-linked competence development, such as agripreneurship, can be interpreted as a practical route for improving educational relevance, particularly when it is delivered through

structured approaches that ensure inclusion, assessment, and progression (UNESCO Institute for Statistics & Global Education Monitoring Report Team, 2024).

Work-Integrated Learning

Work-integrated learning is widely conceptualized as an educational approach that intentionally integrates academic learning with structured work-based experiences, enabling learners to apply concepts in authentic contexts while developing professional competence. Recent synthesis work on publication trends shows that WIL has become a significant area of higher education research because it is associated with employability outcomes, practice readiness, and the integration of learning with workplace demands. Conceptually, WIL is not simply placement; it is a curriculum and assessment strategy that depends on supervision, reflective learning, quality assurance, and clear alignment between learning outcomes and workplace tasks (Rafiq et al., 2024).

In related discussions, WIL is also positioned as a means of addressing the long-standing theory–practice gap in higher education and strengthening outcome-based learning. This perspective highlights that WIL can support competency development in areas such as problem solving, teamwork, and reflective thinking, which are essential for transition into employment and enterprise contexts. The conceptual implication for agripreneurship is that WIL can provide the authentic exposure needed for learners to internalize enterprise routines, understand value-chain realities, and build confidence for practical decision-making rather than remaining limited to theoretical instruction (Marreh & Ceesay, 2024).

Agripreneurship Competencies Training, Work-Integrated Learning, and SDG 4

The conceptual link among the three constructs can be stated as follows: agripreneurship competencies training supplies the targeted capability content, work-integrated learning supplies the applied learning mechanism, and SDG 4 supplies the quality-and-equity policy frame through which the educational value of the pathway can be assessed. Evidence from Africa-wide agribusiness programmes suggests that well-structured youth agripreneurship interventions can extend beyond participation to measurable outcomes such as job creation capacity, implying that competency development coupled with supportive programme design can translate into broader socio-economic benefits. When this logic is transferred into education design, the pathway becomes especially relevant because SDG 4 emphasizes effective learning outcomes and relevant competencies that enable productive participation (Adeyanju, 2024).

Within higher education policy and practice debates, the emphasis on employability and work-relevance further supports the rationale for competence-focused, practice-linked learning designs. Studies examining employability-oriented programming in higher education suggest that outcomes depend strongly on how well learning activities are structured, embedded, and supported, which reinforces the argument that WIL must be treated as a quality-assured learning design rather than a loosely organized attachment. Conceptually, this points to the need for deliberate WIL models in Bayelsa State that can connect learners to agribusiness environments, ensure supervision and reflective learning, and translate training into demonstrable competence outcomes that align with SDG 4's focus on relevance and lifelong learning (Scandurra et al., 2024).

THEORETICAL FRAMEWORK

Experiential Learning Theory

Experiential Learning Theory (ELT) provides a coherent explanatory lens for understanding why work-integrated learning can plausibly strengthen agripreneurship competency development and, by extension, advance the relevance dimension of SDG 4. ELT argues that learning is produced through a cycle in which individuals engage in concrete experience, reflect on that experience, form abstract concepts, and then test those concepts through active experimentation, thereby transforming experience into knowledge and capability that can be applied in new situations (Kolb, 2015). This cycle aligns closely with contemporary interpretations of work-integrated learning as a curriculum approach that intentionally links structured work-based experiences with guided reflection and assessed learning outcomes, rather than treating workplace exposure as an informal add-on to classroom instruction (Ferns et al., 2025). In this framing, the educational value of work-integrated learning lies not merely in “doing work” but in how experience is designed, supervised, and assessed to support reflection and transfer, which are central conditions for competence development and educational quality (Henríquez, 2025).

Applied to Bayelsa State, ELT implies that agripreneurship competencies training is most likely to yield meaningful learning outcomes when learners repeatedly move between authentic agri-value-chain tasks and structured reflection that supports judgment, decision-making, and adaptive problem-solving. In practical terms, this means that placements and projects within farms, agro-processing ventures, agritech hubs, cooperatives, and market-facing enterprises should be treated as learning sites where experience is intentionally curated, feedback is continuous, and reflection is scaffold so that learners can convert local production and market realities into transferable entrepreneurial competence. The theory also clarifies why fragmented or purely classroom-based training often struggles to deliver robust outcomes: without sustained cycles of experience, reflection, conceptualization, and experimentation, learners may acquire declarative knowledge while remaining under-prepared for the uncertainty, risk, and operational demands that characterize agripreneurship in real settings (Morris, 2020). Consequently, ELT strengthens the article’s pathway argument by showing how work-integrated learning can function as the mechanism that transforms agripreneurship training content into demonstrable competencies aligned with education relevance and applied learning expectations under SDG 4 (Curto-Reverte, 2025).

DISCUSSION

A Pathway Linking Agripreneurship Competencies Training, SDG 4, and Work-Integrated Learning

Agripreneurship competencies training can be positioned as a practical route for strengthening the “quality and relevance” dimensions of education, while work-integrated learning functions as the delivery mechanism that converts classroom learning into demonstrable capability. This proposition is consistent with SDG 4’s framing of education as a system that should deliver inclusive and equitable quality learning and support lifelong learning, rather than functioning only as a credentialing pathway with weak labour-market and livelihood relevance (United Nations, n.d.).

The most direct SDG 4 entry-point for this argument is Target 4.4, which emphasizes increasing the number of youth and adults with relevant competencies for employment, decent work, and entrepreneurship, thereby making competence development a legitimate indicator of education

progress rather than a peripheral outcome. When agripreneurship training is framed through this target, it becomes possible to interpret agriculture-linked enterprise capability as an education-quality outcome, especially in contexts where livelihoods are strongly connected to agri-food systems and related value chains (UNESCO, n.d.).

Defining the Core Agripreneurship Competencies for Bayelsa State

The practical credibility of the pathway depends on specifying what agripreneurship competencies training should mean in programme terms, rather than treating it as a general call for “skills training.” Conceptually, the competency set should combine value-chain literacy and enterprise capability, so that learners can move from production awareness to market reasoning and from initiative to sustained enterprise routines. In an applied Bayelsa State framing, this implies competencies that support opportunity recognition in local crops and aquaculture niches, basic enterprise planning, cost and record management, quality and standards awareness, and market engagement, alongside adaptive problem-solving that reflects the uncertainties of agricultural production and trade (Bayelsa State Ministry of Agriculture and Natural Resources, 2025).

In addition, contemporary education and employability discussions increasingly stress that competence development must incorporate transversal capabilities such as communication, teamwork, ethical judgment, and digital readiness, because these are often decisive for enterprise performance and for navigating partnerships, off-taker relations, and financing conditions. This is particularly relevant where agripreneurship is pursued through cooperatives, clusters, or incubator arrangements that require collaboration and reliable stakeholder interaction, suggesting that agripreneurship competencies training should intentionally balance technical competence with enterprise-facing and relational competence (Dean, 2025).

Structuring Work-Integrated Learning for Agripreneurship

Work-integrated learning should be treated as a curriculum structure with defined learning outcomes, supervised practice, and assessed reflection, not as an informal attachment or ad hoc placement. From a programme-design standpoint, this means that the work component must be intentionally aligned to the competencies being developed, while reflection and feedback must be built into the learner experience so that practical exposure becomes learning rather than mere labour. This understanding is consistent with contemporary syntheses that frame work-integrated learning as a mechanism for blending academic study and authentic workplace experience to strengthen employability and readiness for professional and enterprise contexts (Curto-Reverte, 2025).

Within Bayelsa State, the most viable work-integrated learning design for agripreneurship is likely to be a blended model that uses multiple learning sites, including school-based production units, community-linked demonstration farms, agro-processing microenterprises, and structured engagements with market actors and off-takers. The reason for this design preference is that agripreneurship is inherently value-chain oriented, meaning that learners must experience not only production but also aggregation, processing, packaging, distribution, and market negotiation. Therefore, work-integrated learning should be organized as a sequenced exposure across these sites, with supervision agreements that clarify what learners do, how competence is evidenced, and how learning is validated (UNESCO-UNEVOC, 2023).

Institutional and Stakeholder Responsibilities

For the pathway to function as an education-quality intervention, institutions must assume responsibility for standard-setting, supervision protocols, and assessment, while external partners must provide authentic task exposure and mentorship. In practical terms, institutions should define competency statements, specify evidence requirements, and ensure that workplace tasks correspond to learning outcomes; meanwhile, partner organisations should provide structured roles, feedback loops, and safe learning environments. This division of responsibility aligns with the broader shift in global education discourse towards stronger employer–education partnerships that modernize curricula and strengthen the real-world relevance of learning, particularly in fast-changing economies and sectors (UNESCO, 2025).

At the state level, the feasibility of this approach is enhanced when agripreneurship training initiatives are already visible within youth development programming, because these can serve as partnership anchors, placement reservoirs, or post-training transition routes. Bayelsa State’s youth-focused agriculture initiatives indicate an existing policy interest in agriculture-linked empowerment, and an SDG 4–aligned WIL pathway can be positioned as a quality-assured educational extension of such initiatives by connecting learners to supervised practice, cluster-based learning, and market-facing support arrangements (Bayelsa State Ministry of Youth Development, 2025).

Quality Assurance, Inclusion, and Ethics

The pathway must be interpreted through the quality lens of SDG 4, which requires attention to inclusion, equity, and meaningful learning outcomes, rather than assuming that any work exposure automatically improves learning. Quality assurance, in this sense, includes transparent placement criteria, supervision capacity, reflective learning routines, and credible assessment practices that protect learners from being used as unpaid labour without educational benefit. It also includes ensuring that opportunities are accessible to groups that may face barriers, including women and economically disadvantaged learners, so that competence development does not become a privilege limited to those with better networks or resources (United Nations Statistics Division, 2024).

There is also an ethical need to address the realities of youth labour-market vulnerability and the risk that poorly designed training programmes produce discouragement rather than empowerment. Youth employment analyses repeatedly show that transitions into decent work are shaped by the quality of opportunities and the extent to which young people can accumulate credible capabilities that translate into sustainable earnings and agency. Consequently, positioning agripreneurship competencies training as an SDG 4 pathway requires explicit safeguards: fair learning conditions, realistic enterprise pathways, and post-training linkages that support continuation rather than abandonment after initial exposure (International Labour Organization, 2024).

PRACTICE AND POLICY IMPLICATIONS

Aligning Education Delivery with National Skills and TVET Directions

A practical implication of the pathway argument is that agripreneurship competencies training through work-integrated learning can be positioned as a delivery expression of broader national commitments to strengthening technical and vocational education and training and expanding flexible learning approaches. Where national TVET policy directions emphasize responsiveness to labour-market needs and competence-based preparation, education institutions in Bayelsa State can interpret agripreneurship-focused WIL as a concrete sector pathway that operationalizes these

aims, particularly in agriculture-linked local economies (National Board for Technical Education, 2024).

A second implication is that policy actors and institutions should treat monitoring and reporting not as bureaucratic compliance but as evidence of SDG 4 alignment, especially for Target 4.4. This means designing learning outcomes that can be tracked and reported in ways that reflect competence development, including basic digital and enterprise-related competencies that increasingly shape employability and entrepreneurship potential. UNESCO's knowledge products on monitoring Target 4.4 reinforce the need for clarity on what is being measured and why, suggesting that an agripreneurship–WIL pathway should specify indicators that can credibly demonstrate “relevant competence” rather than relying on programme participation counts alone (UNESCO, 2024/2025).

CONCLUSION

In summary, the opinion advanced in this paper is that agripreneurship competencies training can be legitimately reframed as an education-quality strategy under SDG 4 when it is delivered through work-integrated learning that is structured, supervised, and assessed. The core logic is that SDG 4's emphasis on inclusive quality and relevant learning outcomes provides the normative policy frame; agripreneurship provides the sector-specific competence content aligned with livelihoods and local economic resilience; and work-integrated learning provides the pedagogical mechanism that translates learning into demonstrable capability. This alignment is especially compelling in Bayelsa State, where agriculture-oriented programmes and state-level interest create entry points for partnership-driven learning designs that can connect education providers, enterprise actors, and community contexts (UNESCO, n.d.).

Accordingly, the proposal-oriented direction is that education stakeholders in Bayelsa State should prioritize a formalized agripreneurship work-integrated learning pathway with clear competency statements, sequenced value-chain exposure, supervision standards, inclusive access arrangements, and SDG 4-aligned indicators, so that agripreneurship competencies training is institutionalized as a quality-assured route for strengthening relevant learning outcomes and sustainable livelihood preparedness rather than remaining a fragmented set of short-term training activities.

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