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Curricular and Institutional Support as Determinants of Career Paths Among BSA Graduates: Basis for Curricular Enhancement

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agricultural education, BSA graduates, career paths, curriculum enhancement, industry 4.0, institutional support, last mile gap, qualitative research

Abstract. This exploratory sequential qualitative study investigated the influence of curricular and institutional support on the career paths of Bachelor of Science in Agriculture (BSA) graduates from Cagayan State University Gonzaga Campus (cohorts 2018–2022). Grounded in Human Capital Theory, Social Cognitive Career Theory, and Curriculum Theory, the study analyzed the lived experiences of twelve (12) purposively selected alumni through thematic analysis following Braun and Clarke's (2022) six-phase framework. Findings revealed a non-linear professional evolution marked by Strategic Patience in public service and a significant Entrepreneurial Pivot (33.3%) among graduates who established independent technical ventures. While the curriculum maintains high technical credibility in foundational sciences, a pronounced Digital-Analog Dissonance was identified between traditional academic production models and the demands of Industry 4.0. Faculty mentorship served as the primary psychological anchor, but findings exposed a structural "Last Mile Gap"—a vacuum of institutional support during the post-graduation to licensure transition. Professional attrition was driven primarily by economic friction rather than vocational disengagement. Based on these qualitative insights, the study culminated in the development of the AGRI-RECON (Agricultural Re-calibration and Operational Networking) Framework, a 6-Key Result Area (KRA) strategic blueprint proposing the institutionalization of an in-house review program, an Alumni Placement Office, and a Smart Farming Infusion module. The framework ensures alignment of academic training with the technological exigencies of the modern global agricultural workforce.

Introduction

The global agricultural landscape is undergoing radical transformation driven by digital integration, climate-smart technologies, and a shifting economic focus from traditional production to specialized agribusiness. For the Philippines, a country where agriculture remains a cornerstone of the national economy, the quality of higher agricultural education is paramount. The Bachelor of Science in Agriculture (BSA) program is tasked not only with producing technically proficient agriculturists but also with developing professionals who can navigate a complex labor market characterized by high competition, rapid technological shifts, and emerging entrepreneurial opportunities.

Cagayan State University (CSU) Gonzaga Campus plays a vital role in shaping the agricultural workforce of Northern Luzon. However, the transition from student to professional agriculturist is often fraught with challenges. Analysis of recent alumni trajectories suggests a diverse professional landscape: while many graduates successfully secure roles in government extension and private agribusiness, a significant number pivot toward independent agri-entrepreneurship or specialized technical roles to achieve financial stability and professional autonomy.

The influence of the institution extends beyond the classroom. It encompasses the relevance of the curriculum to modern industry demands, the availability of laboratory facilities, the strength of faculty mentorship, and the effectiveness of career placement mechanisms. Despite the foundational technical knowledge provided, emerging concerns persist regarding the adequacy of exposure to modern Smart Farming technologies—such as drones and GIS mapping—and the integration of agribusiness management skills necessary for a competitive career.

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Furthermore, the path to becoming a Licensed Registered Agriculturist (R. Agr.) remains a critical milestone heavily influenced by institutional support systems. The emotional and technical preparation for the licensure examination, the alignment of internships with industry realities, and the involvement of alumni networks are all institutional factors that dictate whether a graduate remains in the agricultural sector or seeks opportunities elsewhere.

Research Objectives

This descriptive-exploratory study aims to determine the influence of curricular and institutional support mechanisms on the career paths of BSA graduates of Cagayan State University – Gonzaga Campus. Specifically, it aims to: (1) evaluate how BSA graduates perceive the relevance of the BSA curriculum to their current career tasks and the evolving demands of the modern agricultural sector; (2) assess the effectiveness of institutional support mechanisms—including mentorship, facilities, and alumni networks—in facilitating the professional development and career transitions of graduates; (3) identify the significant challenges and achievements encountered by graduates, particularly factors driving shifts between government employment, private industry, and independent agri-entrepreneurship; and (4) formulate a proposed framework for curricular and institutional enhancement based on the needs and gaps identified from the lived experiences of the graduates.

Conceptual Framework

The conceptual framework of this study is rooted in the Input-Process-Output (IPO) model to explore the influence of institutional and curricular factors on BSA graduate career paths. The framework integrates three theoretical lenses: Human Capital Theory (Becker, 1993; Schultz, 1964), which situates the degree as a measurable investment in productive capacity; Social Cognitive Career Theory (Lent et al., 1994), which explains how self-efficacy and outcome expectations shape professional trajectories; and Curriculum Theory (Tyler, 1949), which provides the basis for evaluating the alignment between academic content and vocational demands.

Methodology

Research Design

The study utilized a Descriptive-Exploratory Qualitative Design. According to Creswell and Poth (2024), this approach is ideal for exploring complex lived experiences and identifying patterns in human phenomena that cannot be quantified. The descriptive aspect provided a detailed account of alumni professional journeys, while the exploratory aspect sought to uncover specific institutional gaps—such as the theory-practice gap and the entrepreneurial pivot—that emerged from participant narratives. The design follows an exploratory sequential logic wherein qualitative insights inform the construction of a strategic institutional enhancement framework.

Research Locale

The study was localized at the Cagayan State University – Gonzaga Campus, specifically within the College of Agriculture. This setting is critical as it serves as the primary academic and technical training hub for agriculturists in Northern Luzon, providing a localized context for how provincial State Universities and Colleges (SUCs) align resources with national agricultural demands.

Participants and Sampling

The study employed Purposive Sampling, a non-probability technique where participants are selected based on specific characteristics relevant to the research questions (Tongco, 2021). The cohort consisted of twelve (12) licensed agriculturists (N=12) who graduated between 2018 and 2022 and met three criteria: (1) graduates of the BSA program with majors in Crop Science or Animal Science; (2) took the Licensure Examination for Agriculturists (LEA); and (3) represented diverse career sectors including Government/LGU, Private Industry, and Agri-Entrepreneurship. Table 1 presents the qualitative coding and professional profile of the cohort.

Code	Year Graduated	Major Specialization	Employment Status	Career Path Category
P-01	2019	Animal Science	Employed (non-Agri)	Pragmatic Misalignment
P-02	2020	Crop Science	Employed (non-Agri)	Pragmatic Misalignment (OFW)
P-03	2019	Crop Science	Employed (Agri)	Strategic Persistence (Academe)
P-04	2018	Crop Science	Employed (Agri)	Strategic Persistence (Gov)
P-05	2022	Crop Science	Employed (non-Agri)	Pragmatic Misalignment

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P-06	2018	Crop Science	Employed (Agri)	Corporate Alignment
P-07	2019	Animal Science	Self-Employed	Entrepreneurial Pivot
P-08	2020	Crop Science	Self-Employed	Entrepreneurial Pivot
P-09	2021	Animal Science	Self-Employed	Entrepreneurial Pivot
P-10	2018	Crop Science	Employed (Agri)	Strategic Persistence (Gov)
P-11	2019	Crop Science	Employed (Agri)	Strategic Persistence (Gov)
P-12	2022	Crop Science	Self-Employed	Entrepreneurial Pivot

Table 1. Qualitative Coding and Professional Profile of the Cohort (N=12)

Research Instrument

The primary research instrument was a researcher-developed Semi-Structured Interview Guide adapted into a digital questionnaire format via Google Forms. The instrument featured open-ended questions designed to elicit detailed narrative accounts regarding curricular relevance, institutional support, career trajectories, and identified professional gaps. To ensure research instrument accuracy, three external experts in Agriculture and Educational Management evaluated the guide using a four-point scale, yielding a Content Validity Index (CVI) of 1.0—indicating total expert agreement on the instrument's suitability and structural integrity. A pilot test was conducted with non-participant alumni to ensure clarity and cultural appropriateness.

Data Gathering Procedure

Data collection followed a multi-stage approach. The first stage involved a formal written request to the CSU-Gonzaga Campus Registrar to secure the official BSA graduate registry for the 2018–2022 period. Actual data gathering was executed from August to October 2025. Initial contact was established through digital platforms to introduce study objectives and secure informed consent. Primary instruments were distributed as digital questionnaires to capture baseline professional narratives. Intensive follow-up sessions were facilitated through phone calls and Facebook Messenger audio/video platforms to allow deep probing into initial responses and emerging themes.

Data Analysis

Collected qualitative data were analyzed using Thematic Analysis following the six-phase approach of Braun and Clarke (2022): (1) familiarization with the data, (2) generating initial codes, (3) searching for themes, (4) reviewing themes against raw data, (5) defining and naming themes, and (6) producing the final synthesis. Credibility was achieved through Thick Description, ensuring that systematic interpretation of in-depth narratives accurately reflected the professional lived experiences of the cohort.

Ethical Considerations and Trustworthiness

The study strictly followed the principles of Non-maleficence and Confidentiality. All participants were assigned codes (P-01 through P-12) to protect their professional identities. Voluntary participation was ensured through a digital informed consent form. To ensure Credibility and Confirmability, Methodological Triangulation was employed by comparing written survey responses with verbal follow-up interviews. Member Checking was also utilized; wherein synthesized themes were presented back to participants to verify interpretive accuracy.

Results and Discussion

Theme I: Perceived Relevance of the BSA Curriculum

The first objective explored how BSA graduates perceive the relevance of their academic training to current career tasks and the evolving demands of the modern agricultural landscape. Analysis yielded a thematic structure defined by high regard for scientific foundations contrasted with a perceived deficit in operational digitalization and functional literacy. Table 2 illustrates this structure.

Theme	Sub-Theme	Convergent Findings	Divergent Findings	Literature Support
Theme 1: Curriculum Relevance	1.1 Foundational Technical Credibility	Core sciences (Crop Production, Crop Protection, Soil Science) validated as non-	Some graduates found abstract GE subjects and advanced mathematics less directly applicable in	Robinson & Garton (2008): domain-specific knowledge is the strongest predictor of early career efficacy.

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		negotiable professional pillars across all sectors.	practical farm management.	
	1.2 Technology and Business Deficit	The curriculum is perceived as outdated with respect to digital tools; graduates noted insufficient exposure to drones, GIS, and Smart Farming.	Operational deficits varied by role: agripreneurs lacked grant-writing skills; government specialists lacked administrative protocol training.	World Bank (2019): educational systems often fail to keep pace with the digital skills divide in Industry 4.0.
	1.3 Adaptive Communication	Communication is a bridge skill requiring situational versatility—translating science into local dialect for extension versus technical reporting for corporate clients.	Sectoral communication needs differed: academic/extension roles emphasized dialect fluency; private sector roles prioritized technical corporate reporting.	FAO (2021): effective technology transfer requires socio-linguistic competence and knowledge brokering.

Table 2. Thematic Structure on Curricular Relevance and Acquired Skills

Sub-theme 1.1: Foundational Technical Credibility

A consensus emerged among the cohort validating the core sciences as the non-negotiable pillars of the profession. The curriculum's primary strength lies in its ability to instill a Scientific Anchor that graduates carry into the field. This was explicitly validated by P-03, a Full-Time Lecturer: "The curriculum was highly relevant. Initially, it provided the technical foundation for the Farmers Field School training. Currently, as a Full-Time Lecturer, the knowledge from courses like Crop Science and Research Methodology is directly applied in preparing lessons and advising students." P-04, an Agricultural Technician, identified Crop Production, Crop Protection, and Soil Fertility as the baseline for government extension work. The versatility of this foundation was observed when P-10, a Crop Science major, successfully transitioned to the Bureau of Animal Industry: "The curriculum was highly relevant because it provided a holistic view of agriculture... the general research principles still apply."

A Pedagogical Dissonance was, however, observed regarding the weight of secondary coursework. P-07 provided a pragmatic critique: "Perhaps less relevant are advanced higher mathematics or unrelated General Education (GE) subjects. In my current business, practical technical skills matter most." This friction supports Contextual Learning Theory (Balschweid et al., 2018), which posits that professional learners experience cognitive disengagement when curricula focus heavily on abstract theories lacking immediate application.

Sub-theme 1.2: The Industry 4.0 Technology and Business Deficit

While foundational science was praised, a typical pattern of concern emerged regarding a perceived Exposure Gap. The narratives suggest the current curriculum resides in a traditional production paradigm, while the global agricultural industry has transitioned toward Industry 4.0 and complex market value chains. P-12 provided a poignant account: "While we had field exposure, we lacked exposure to modern laboratory analysis during our regular classes... Often, well-equipped labs are reserved for faculty research, leaving students with basic tools or just imagining how equipment works." P-11 noted: "The modern sector now demands skills in digital data collection and climate-smart agriculture which should be emphasized more... The curriculum needs to include Smart Farming (drones, apps)."

Beyond the technological gap, a significant Entrepreneurial Mismatch was identified. P-08 shared: "For entrepreneurial skills, no—it was very traditional. We were groomed to be employees (technicians/researchers), not business owners. There was no exposure to Agri-Business Management. We never experienced how to cost a product, market it, or handle cash flow." These findings validate the World Bank's (2019) report on The Future of Food, which warns that a Skills Divide occurs when educational institutions fail to integrate digital literacy and agribusiness analytics into technical degrees.

Sub-theme 1.3: Adaptive Communication and Functional Literacy

The final sub-theme focused on soft-skill requirements and administrative competencies essential for professional sustainability. P-11, an Agricultural Extension Worker, described the communicative friction encountered in the field: "In extension I have to speak the local dialect and simplify the science... if I speak like a textbook, farmers won't listen." Beyond the linguistic transition, a profound Administrative Gap emerged as a primary challenge for those in public service. P-10

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identified government administrative protocols—procurement, liquidation, and project proposal writing—as consuming a significant portion of professional time. Conversely, P-09 credited technical writing as career-defining: "The ability to write a project proposal was the key skill that got me the funding in the first place." These narratives align with FAO (2021) recommendations emphasizing the modern agriculturist as a Knowledge Broker.

Theme II: Effectiveness of Institutional Support Mechanisms

The second thematic area explored the effectiveness of institutional support in facilitating academic success, professional development, and career transitions. Analysis revealed a thematic structure defined by a transition from high residency-based support to reliance on informal professional networks post-graduation. Table 3 summarizes this structure.

Theme	Sub-Theme	Convergent Findings	Divergent Findings	Literature Support
Theme 2: Institutional Support	2.1 The SCCT Anchor (Faculty Mentorship)	Faculty mentorship functioned as a lifelong scientific and emotional anchor—graduates continued to consult professors for technical advice and emotional resilience during the board review phase.	Context-specific mentor roles varied: government graduates sought emotional support; entrepreneurs sought technical validation for grant proposals.	Lent et al. (2002): verbal persuasion from credible mentors significantly boosts self-efficacy.
	2.2 Structural and Financial Shortfalls	A critical 'Last Mile Gap' exists: lack of institutional support for the LEA review period and absence of a proactive placement office left graduates structurally isolated post-graduation.	Specific missing infrastructure included a Business Incubation Facility for agripreneurial startups and a subsidized review program for indigent examinees.	Tinto (2012): environmental friction and financial distress during transition phases cause professional derailment.
	2.3 Alumni Utility & Brand Credibility	The 'CSU Brand' functioned as a credibility passport—facilitating trust and entry into government and local agribusiness networks.	Brand utility was passive in the private sector: the university lacked active, formalized industry linkage channels to convert prestige into economic placement.	Coleman (1988): social capital requires active network closure to provide tangible economic benefits.

Table 3. Thematic Structure on Institutional Support Effectiveness

Sub-theme 2.1: The SCCT Anchor – Faculty Mentorship

Empirical evidence from the cohort re-contextualizes faculty not as temporary sources of information, but as enduring Social Cognitive Anchors. Framed through Social Cognitive Career Theory (SCCT), this phenomenon operates as a robust conduit for Social Persuasion—mitigating friction between academic theory and professional self-actualization. P-11 provided an unedited testament: "Even now I still message my former teachers for technical advice and emotional support when I struggle at work." For those navigating the licensure review, P-05 articulated emotional dependency with clarity: "I needed the faculty more for emotional resilience during my board review than just technical data." For entrepreneurs, P-09 emphasized the role of the mentor as Institutional Validator: "When I was drafting my proposal, I consulted a former professor. They helped check my technical assumptions like feed conversion ratios and mortality rates, which made my proposal realistic and acceptable to the DA." These accounts provide empirical weight to Lent et al.'s (2002) assertion that verbal persuasion from perceived subject-matter experts serves as the primary catalyst for Self-Efficacy.

Sub-theme 2.2: Structural and Financial Shortfalls

Findings raised a typical pattern of systemic neglect regarding the university's exit architecture, identifying a profound deficit during the transition from academic completion to professional integration—the Last Mile Gap. P-12 provided a stark critique: "We were left on our own after graduation... there was no financial help for the board review or a placement office to help us find jobs." P-08 identified a missing Incubation vs. Placement infrastructure: "The university teaches the science but we lacked a proper Business Incubation Facility to protect our startups. Stop training students solely to be

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employees." These accounts align with Tinto's (2012) Theory of Institutional Departure, positing that professional attrition is frequently a byproduct of external environmental friction and financial distress during critical transition phases.

Sub-theme 2.3: Alumni Utility and Brand Credibility

The research identified the university's reputation as a Credibility Passport functioning as a powerful reputational signal within the regional agricultural ecosystem. P-06 noted: "Coming from CSU gave me a Credibility Passport... people in the government trust you immediately because of the school's name." However, a critical Divergence emerged regarding the functional utility of the brand. P-03 articulated a Passive Status: "In the academe the brand is respected but it is passive... we need more active linkages to the private sector." These accounts align with Coleman's (1988) Social Capital Theory, arguing that social capital only generates tangible economic benefits when there is Active Network Closure—a deliberate, institutionalized effort to connect network members to external opportunities.

Theme III: Career Paths and Professional Evolution of BSA Graduates

The longitudinal analysis identified a Non-Linear Negotiation between academic preparation and the structural velocity of the regional labor market. While the cohort achieved a 100% workforce integration rate, the more significant measures are the 75% Sectoral Retention rate and the 33.3% Entrepreneurial Mastery rate. These metrics suggest that the curriculum provides not just job-seeking skills, but Allocative Efficiency—the ability to identify regional market gaps and mobilize resources independently.

A defining characteristic of professional journeys was the phenomenon of Strategic Patience. For graduates aligned with public service (P-04, P-10, P-11), the transition to a technical anchor was not immediate. These graduates navigated an Institutional Waiting Room characterized by long-term contractual roles as Enumerators or Volunteers—holding phases where graduates maintained proximity to the Department of Agriculture while awaiting permanent plantilla vacancies. This aligns with Mina (2019), who observes that the scarcity of government positions forces licensed professionals to subsidize eventual entry into public service through low-wage contractual labor.

The data further revealed a critical temporal threshold at the three-year post-graduation mark. Participants who failed to secure a stable technical anchor within this window exhibited a higher propensity for Pragmatic Misalignment, exemplified by P-02, who exited to overseas employment by 2024. This underscores the Last Mile Gap, where the absence of institutional stewardship during the post-graduation vacuum results in devaluation of specialized human capital.

The Entrepreneurial Tier (P-07, P-08, P-09, P-12)—comprising 33.3% of the cohort—bypassed traditional employment ladders to establish self-sustaining ventures. Table 4 details these initiatives.

Code	Nature of Agricultural Venture	Year Initiated	Current Status	Primary Funding Source
P-07	Artificial Insemination and Livestock Services	2020	Active and expanding	Personal and Family Savings
P-08	Agri-Retail and Farm Input Distribution	2021	Active	Micro-Finance Loan
P-09	Multi-Specie Livestock Production Project	2022	Active	Government Grant Applicant
P-12	Technical Farm Consultancy and Diagnostics	2023	Active	Personal and Family Savings

Table 4. Matrix of Individual Entrepreneurial Initiatives and Resource Mobilization

A critical finding was the heavy reliance on informal funding mechanisms—three of the four entrepreneurs utilized personal or family savings. According to Leibenstein's (1966) Theory of X-Efficiency, this Resource Mobilization Deficit serves as the empirical mandate for the proposed Agri-Business Incubation module. All four ventures initiated between 2020 and 2023 remained Active through 2025, confirming Schultz's (1975) Allocative Efficiency—the ability of educated agents to identify and exploit market opportunities while maintaining venture viability.

Continuous Professional Development data revealed a universal post-graduation LEA Review Phase serving as a non-earning Professional Midpoint. Between 2020 and 2024, graduates acquired digital competencies in marketing, data analysis, and precision agriculture through hybrid training modalities. The evolution of training focus toward high-value certifications—including Drones4Rice, Solar-Powered Irrigation, and AI in Research—confirms Schultz's (1975) seminal work on the ability to deal with technological disequilibria.

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Theme IV: The AGRI-RECON Framework – Strategic Enhancement Blueprint

The culmination of this longitudinal analysis is the AGRI-RECON (Agricultural Re-calibration and Operational Networking) Framework. This strategic blueprint addresses the systemic frictional delays and sectoral attrition identified in the 2018–2022 cohort. Grounded in the Triple Helix Model of Innovation (Etzkowitz & Leydesdorff, 2000), the framework asserts that sustainable professional development occurs at the intersection of university pedagogy, industrial exigencies, and government policy. Table 5 maps the causal link between observed graduate precarity and targeted institutional responses.

Area of Concern	Identified Empirical Gap	Theoretical Basis	Proposed Enhancement Strategy
Technological Alignment	Digital-Analog Dissonance: outdated curriculum in a data-driven Industry 4.0 environment.	Human Capital Theory: degree value diminishes if technical tools are obsolete (Becker, 1993).	Smart Farming Infusion Program (IoT, Drones, Data Analytics).
Structural Transition	The Last Mile Gap: logistical and academic barriers during the post-graduation to LEA transition.	Tinto's Success Model: environmental friction during transition causes professional derailment.	Campus In-House Review Class for LEA and a Centralized Career Hub.
Entrepreneurial Efficacy	Resource Mobilization Deficit: inability to write technical grant proposals or access startup capital.	Allocative Efficiency: technical skills require resource management to be economically viable (Schultz, 1975).	Agri-Business Incubation module and functional Grant Writing workshops.
Network Institutionalization	Passive Social Capital: underutilization of university brand for professional hiring.	Social Capital Theory: networks require active closure to provide economic benefits (Coleman, 1988).	Formalization of Alumni Placement Office (APO) and Strategic Industry Linkages.

Table 5. Summary of Identified Gaps and Theoretical Justification for Enhancement

The framework is operationalized through a 6-KRA Strategic Matrix (Table 6), which shifts the institutional focus from sporadic curricular updates to a systemic, results-oriented management model.

Key Result Area (KRA)	Specific Objective	Proposed Intervention	Implementation Strategy
KRA 1. Technological Modernization	To bridge the gap between traditional production and digital agricultural technologies.	Smart Farming Infusion Program	Conduct curricular audits to integrate GIS/IoT modules; procure digital sensors for field trials.
KRA 2. Allocative Efficiency	To empower graduates as job creators through resource mobilization skills.	The Agri-Grant Initiative	Redesign assessments to replace generic business plans with functional Grant Proposals for funding agencies.
KRA 3. Structural Transition Support	To mitigate environmental and academic barriers during the graduate transition.	The Last Mile Bridge Program	Institutionalize In-House Review Class for LEA; operationalize a centralized Career Hub.
KRA 4. Professional Communication	To develop Knowledge Brokers capable of situational and linguistic versatility.	The Agri-Linguistics Workshop	Conduct code-switching seminars (vernacular vs. technical) and mock stakeholder negotiations.
KRA 5. Industry-Academe Collaboration	To transform the university brand from passive prestige to	Strategic Industry Linkage Portal	Formalize partnerships with private agribusiness firms through MOA expansion and alumni matching.

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KRA 6. Applied Research & Development	active market partnership. To address theoretical redundancy by aligning research with field demands and social utility.	Field-Centric Research Paradigm	Transition thesis topics toward Technology Transfer and community-centric problem solving.

Table 6. Matrix of Proposed Institutional Key Result Areas and Implementation Strategies

Phase 1 of the framework addresses Digital-Analog Dissonance through Smart Farming infusion, integrating IoT and UAV modules into foundational courses (Schultz, 1964; Lioutas et al., 2021). Phase 2 bridges the Last Mile Gap through a dual-layered intervention: a Course Audit serving as a diagnostic anchor followed by a Campus In-House Licensure Review (Bautista & Castillo, 2024). Phase 3 converts Passive Social Capital into active economic assets through a formalized Alumni Placement Office and Strategic Industry Linkages (Coleman, 1988). Phase 4 addresses the Resource Mobilization Deficit by re-tooling Research and Agricultural Economics courses to focus on functional grant proposals, transforming students from job-seekers to job-creators (Mendoza, 2022).

Conclusion and Recommendations

The longitudinal investigation into the professional trajectories of the 2018–2022 BSA cohort reveals a profound Structural-Relational Paradox. The curriculum successfully establishes high technical credibility in foundational sciences, yet this efficacy is progressively eroded by a Digital-Analog Dissonance—the gap between analog-centric pedagogy and a professional landscape increasingly defined by precision farming and automated data analytics.

Institutional support, while powerful, remains predominantly relational rather than structural. Faculty mentorship serves as a dynamic psychological anchor that strengthens graduate self-efficacy and resilience; however, the structural Last Mile Gap during the graduation-to-licensure transition creates significant professional vulnerability. The university brand provides a Credibility Passport for entry into public service, yet the lack of active, formalized industry linkages ensures this institutional support remains a passive asset rather than a transformative force in career velocity.

It is concluded that for CSU College of Agriculture to continue producing globally competent and resilient graduates, there is an urgent and non-negotiable need for comprehensive curriculum transformation aligned with the 6-KRA Strategic Blueprint. Professional attrition is primarily driven by economic friction rather than a lack of vocational interest—a finding that reframes the university's responsibility from degree-granting to lifetime career stewardship. For institutional policy, the findings necessitate the establishment of a Last Mile Bridge through in-house licensure coaching and active career placement, shifting institutional accountability from academic completion to professional registration. For curricular delivery, laboratory exercises must evolve from manual, observational tasks to data-driven, technological interactions—integrating IoT sensors, drone-based scouting, and GIS mapping into core BSA subjects. For alumni and industry relations, the research underscores the urgent need to transform the university brand from a passive reputational asset into an active Credibility Passport through formalized, reciprocal portals with private agribusiness firms and national research agencies.

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Competing Interests Statement

The author declares no conflict of interest

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Data Availability Statement

No new datasets were created in this study. All qualitative data were derived from semi-structured interviews with consenting participants whose identities have been anonymized.

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Appendices

No appendices are attached to this study.

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