

Supplementary Table S6. Analytical Screening and Inclusion of Studies for the Triple Helix Innovation Model (THIM) Meta-Analysis and Emerging Quadruple Helix Interactions (2020–2025). Note: For complete bibliographic and screening information for each study, please refer to Supplementary Table S5, which presents the full details corresponding to each Study ID (SID). Cell shading is used to indicate screening outcomes: Green (Fully Include), Orange (Conditionally include), Gray (Exclude).

Study ID-b (SID-b)	Inclusion Decision	Relevance to Triple Helix	Analytical contribution	Justification
SID-b1	Exclude	The study documents interactions between government actors and civil society or community groups in the context of climate adaptation, disaster response, and livelihood strategies. It does not involve universities, formal research institutions, or industry actors in innovation-related processes or decision-making. It does not examine co-production of knowledge, technological development, policy innovation, or systemic innovation outcomes linking government, university, and industry actors within a Triple Helix framework.	The study provides substantive analysis of multi-scalar governance, social-ecological transformation, maladaptation risks, and community resilience. It identifies structural constraints and relational dynamics between government and local communities. However, it does not analyze institutional configurations, role differentiation, or interaction mechanisms among government, university, and industry actors in an innovation system.	The absence of documented government–university–industry collaboration and the lack of innovation system analysis mean the study does not meet Triple Helix inclusion criteria. It focuses on governance and adaptation without examining cross-sector innovation dynamics; therefore, it is excluded from the Triple Helix meta-synthesis.
SID-b2	Exclude	The study presents a conceptual framework for managing healthy and resilient agricultural and natural ecosystems using a social-ecological systems approach. It addresses governance and environmental management but does not examine empirical interactions among government, university, and industry actors. It does not situate its analysis within an innovation system framework or document cross-sector collaboration in the Philippine context.	The paper’s contribution is theoretical. It advances ecosystem health and resilience thinking but does not analyze structural configurations, functional roles, or relational dynamics among Triple Helix actors. It provides no empirical evidence of government–university–industry collaboration or innovation processes.	The absence of documented government–university–industry interactions and the lack of innovation system analysis mean the study does not meet Triple Helix inclusion criteria. As a general conceptual framework without empirical cross-sector collaboration, it is excluded from the Triple Helix meta-synthesis.
SID-b3	Exclude	The study analyzes Airbnb operations in the National Capital Region using an HSD (Honestly Significant Difference)	The paper contributes empirical insight into the economic and spatial patterns of the sharing economy in the National	The absence of documented government–university–industry collaboration and the lack of innovation system analysis mean

		statistical test to compare variables such as pricing, occupancy, and location characteristics. It examines platform-based market behavior and consumer-provider dynamics. It does not investigate interactions among government, university, and industry actors within an innovation system framework, nor does it document institutional collaboration relevant to Triple Helix dynamics.	Capital Region. However, it does not assess structural configurations, governance mechanisms, or relational linkages among government agencies, higher education institutions, and private firms in innovation processes.	the study does not satisfy Triple Helix inclusion criteria. Its focus on market analytics rather than institutional innovation dynamics warrants exclusion from the meta-synthesis.
SID-b4	Exclude	The study evaluates 21st-century skills among practice teachers and uses the results to inform curriculum enhancement and instructional development. It does not examine interactions among government, university, and industry actors, nor does it situate the analysis within an innovation system framework.	The paper contributes to teacher education and curriculum improvement. It does not analyze structural arrangements, policy coordination mechanisms, or relational dynamics among state agencies, higher education institutions, and industry stakeholders in innovation processes.	The absence of documented government-university-industry collaboration and the lack of innovation system analysis mean the study does not meet Triple Helix inclusion criteria.
SID-b5	Exclude	The study proposes a 12-point checklist for aquatic animal disease surveillance to guide multidisciplinary teams in developing countries. It does not present empirical evidence of structured interactions among government, universities, and industry actors within the Philippine innovation system.	The paper offers a practical surveillance framework for aquatic animal health management. It does not analyze institutional collaboration, innovation processes, or systemic dynamics among Triple Helix actors in a defined national context.	The lack of documented government-university-industry interactions and the absence of innovation system analysis exclude the study from Triple Helix inclusion.
SID-b6	Exclude	The study assesses the status of multi-hazard early warning systems in Batangas, focusing on local government units, disaster risk reduction offices, and community preparedness mechanisms. It does not document structured collaboration among government, universities, and industry actors in innovation development or knowledge commercialization.	The paper contributes empirical insight into institutional capacities, governance gaps, and operational challenges in disaster risk reduction systems. It does not examine structural configurations, functional differentiation, or relational dynamics among Triple Helix actors in innovation processes.	The study lacks documented government-university-industry collaboration within an innovation system framework and does not satisfy Triple Helix inclusion criteria.

SID-b7	Exclude	The study conducts a bioinformatics analysis of active compounds from <i>Curcuma xanthorrhiza</i> in relation to arthritis. It does not examine interactions among government agencies, universities, and industry actors, nor does it address innovation governance or system-level collaboration in the Philippine context.	The paper contributes to molecular pathway analysis and drug discovery research. It does not analyze institutional linkages, commercialization pathways, or structural dynamics among Triple Helix actors.	The absence of documented government–university–industry interactions and the lack of innovation system analysis result in exclusion from the Triple Helix meta-synthesis.
SID-b8	Exclude	The study provides a historical account of the Kapisanang Kimika ng Pilipinas (Chemical Society of the Philippines). It does not present systematic empirical analysis of government–university–industry collaboration within an innovation system framework.	The paper contributes to understanding the institutional evolution of a professional scientific organization in the Philippines. It does not assess structural arrangements, policy coordination, or relational dynamics among Triple Helix actors in innovation processes.	As a descriptive historical account without empirical documentation of government–university–industry interactions, it does not meet Triple Helix inclusion criteria.
SID-b9	Exclude	The study develops a classification method for tourism English talents using feature mining and information fusion technologies. It does not analyze interactions among government, universities, and industry actors, nor does it situate the study within an innovation system framework.	The paper contributes methodologically to talent classification and educational technology applications. It does not address structural, functional, or relational dimensions of Triple Helix collaboration.	The lack of Philippine innovation system relevance and the absence of documented government–university–industry interactions warrant exclusion.
SID-b10	Exclude	The study examines compliance and marketing factors affecting the viability and sustainability of multipurpose cooperatives. It does not provide empirical documentation of structured collaboration among government, universities, and industry actors, nor does it analyze innovation-related institutional linkages.	The paper contributes to understanding cooperative management, regulatory compliance, and marketing performance. It does not evaluate knowledge transfer mechanisms, systemic innovation dynamics, or relational structures among Triple Helix actors.	The absence of documented government–university–industry collaboration and innovation system analysis means the study does not meet Triple Helix inclusion criteria.
SID-b11	Exclude	The study conducts a content analysis of YouTube vlogs about Siargao Island, focusing on tourism representation, destination image, and digital media narratives. It does not examine government–university–industry	The paper contributes to scholarship on digital tourism marketing, media framing, and destination branding in the Philippine context. It does not analyze institutional collaboration, policy–industry	Despite its empirical Philippine focus, the study contains no documented government–university–industry collaboration and no innovation system analysis. It does not meet Triple Helix inclusion criteria.

		interactions or situate the analysis within an innovation system framework.	coordination, or university engagement in innovation processes.	
SID-b12	Exclude	The study develops and applies a decision-support framework to estimate the costs and benefits of marine plastic pollution interventions across multiple contexts, including a Philippine case. It reports engagement with municipal governments and local stakeholders but does not document structured collaboration among government, universities, and industry as co-actors in innovation processes within an innovation system framework.	The paper contributes a structured economic assessment framework and provides empirical cost estimates for environmental interventions. It analyzes stakeholder cost distribution and participatory engagement but does not examine institutional configurations, knowledge transfer mechanisms, or relational dynamics among Triple Helix actors.	Although it includes a Philippine case and empirical analysis, it does not document or analyze government–university–industry collaboration in systemic innovation processes. It fails to meet Triple Helix inclusion criteria.
SID-b13	Exclude	The study evaluates the implementation and preliminary effectiveness of a digital mental health intervention delivered via mobile application to overseas Filipino workers, using a hybrid trial design and the RE-AIM framework. It involves universities and engagement with community partners and consular services but does not document structured government–university–industry collaboration within an innovation system framework.	The paper contributes a clinical intervention design and evaluation framework for digital health delivery. It advances knowledge on effectiveness and scalability assessment but does not analyze institutional roles, cross-sector coordination, or systemic innovation dynamics among Triple Helix actors.	The absence of documented government–university–industry interaction and innovation system analysis excludes the study under Triple Helix criteria.
SID-b14	Exclude	The paper provides a technical annotation guide for baited remote underwater stereo-video surveys of demersal fish assemblages. It outlines standardized procedures for ecological data collection and does not examine government–university–industry interactions or innovation system dynamics.	Its contribution is methodological, improving rigor and standardization in underwater ecological surveys. It does not analyze structural arrangements, functional differentiation, or relational dynamics among Triple Helix actors in innovation processes.	There is no documented government–university–industry collaboration or innovation system analysis. The study does not meet Triple Helix inclusion criteria.
SID-b15	Exclude	The article outlines the need for an international Global Ocean Oxygen Database and Atlas (GO ₂ DAT) to support scientific and policy communities. It does	The paper contributes conceptually by proposing coordinated global data infrastructure for ocean oxygen monitoring. It emphasizes data	As a conceptual and global proposal without documented government–university–industry interaction in an

		not present empirical analysis of structured government–university–industry collaboration within a national or regional innovation system.	standardization and stakeholder engagement but does not analyze institutional configurations, knowledge commercialization, or cross-sector innovation dynamics.	innovation system, it does not satisfy Triple Helix inclusion criteria.
SID-b16	Exclude	The paper identifies research priorities for health systems resilience based on a global expert workshop. It discusses governance and multi-sector engagement conceptually but does not provide empirical evidence of government–university–industry collaboration in innovation processes.	Its contribution is the development of a research agenda for health systems resilience. It does not analyze structural configurations, functional roles, or relational dynamics among Triple Helix actors within an innovation system.	The absence of empirical government–university–industry interaction and innovation system analysis results in exclusion under Triple Helix criteria.
SID-b17	Exclude	The study evaluates hospitality internship program compliance with Commission on Higher Education requirements and proposes an entrepreneurial internship model. It references government regulation and industry placements but does not analyze structured government–university–industry collaboration as a co-innovation process within an innovation system.	The paper contributes empirical findings on curriculum gaps, regulatory compliance, and internship model design. It does not examine institutional coordination mechanisms, knowledge transfer processes, or systemic innovation dynamics among Triple Helix actors.	Although Philippine-focused and empirical, it lacks documented government–university–industry collaboration within an innovation system framework. It does not meet Triple Helix inclusion criteria.
SID-b18	Exclude	The study applies a multi-method approach to assess soil function supply and demand from policy and local stakeholder perspectives in an agricultural landscape. It engages policy actors and community stakeholders but does not document structured government–university–industry collaboration in innovation processes.	The paper contributes empirical insights into discrepancies between policy targets and local priorities in land-use planning. It does not analyze institutional configurations, knowledge flows, or relational dynamics among Triple Helix actors.	Despite its Philippine empirical focus, it contains no documented government–university–industry interaction within an innovation system framework. It does not meet Triple Helix inclusion criteria.
SID-b19	Exclude	The study proposes a group decision-making method using Pythagorean fuzzy sets and evidence theory. It is a methodological contribution that does not examine empirical government–	The paper advances computational decision-making theory under uncertainty. It does not analyze structural, functional, or relational dynamics among Triple Helix actors in innovation processes.	It lacks empirical documentation of government–university–industry collaboration and contains no Philippine innovation system focus. It does not qualify under Triple Helix inclusion criteria.

		university–industry interactions or innovation system dynamics.		
SID-b20	Exclude	The article is a narrative editorial describing nursing informatics responses to the COVID-19 pandemic across world regions, including commentary on the Philippines. It does not present empirical evidence of structured government–university–industry collaboration within an innovation system.	The piece provides experiential reflections on digital health adoption and interdisciplinary networking during a global health crisis. It does not analyze institutional coordination, structural gaps, or relational dynamics among Triple Helix actors.	As a non-empirical editorial without documented government–university–industry interaction in an innovation system framework, it does not meet Triple Helix inclusion criteria.
SID-b21	Exclude	The study examines media reception and interpretive experiences of a specific audience group. It does not analyze government–university–industry interactions, institutional collaboration, or innovation system dynamics. The focus is cultural and media reception rather than cross-sector innovation processes.	The paper contributes to media studies and LGBTQ+ audience scholarship by analyzing how queerbaiting is interpreted and negotiated by Filipino viewers, including emotional and interpretive responses. It does not address structural conditions, institutional coordination, or innovation-related governance involving government, industry, or academia.	Although Philippine-focused and empirical, the study contains no documented government–university–industry interactions and no innovation system analysis. It does not meet Triple Helix inclusion criteria.
SID-b22	Exclude	The study examines Community-Based Tourism (CBT) involving local governments, communities, NGOs, and private tourism actors. It does not document structured government–university–industry collaboration or innovation system dynamics.	The paper analyzes CBT impacts on sustainability, socio-cultural development, environmental awareness, and local participation. It provides insights into tourism development and governance but does not examine innovation processes, knowledge transfer, or institutional coordination among Triple Helix actors.	Despite Philippine empirical grounding and multi-stakeholder involvement, the study does not provide evidence of government–university–industry collaboration as an innovation system. It is excluded under strict Triple Helix criteria.
SID-b23	Exclude	The article reviews 3D printing in construction and its labor market implications. It does not analyze government–university–industry interactions or innovation system governance.	The paper synthesizes global technological trends in additive manufacturing and discusses productivity, labor displacement, and skills transformation. It does not examine institutional collaboration or innovation dynamics among Triple Helix actors.	As a non-empirical global review, it contains no documented government–university–industry interactions and no Philippine innovation system focus. It does not meet inclusion criteria.
SID-b24	Exclude	The study reviews abaca fiber-reinforced polymer composites and their industrial applications. It does not analyze	The paper synthesizes material properties, production methods, and applications in automotive and	As a technical literature review without empirical Triple Helix interaction data or

		government–university–industry collaboration or innovation system processes.	construction sectors. It does not address institutional linkages or innovation governance structures.	Philippine innovation system analysis, it does not meet inclusion criteria.
SID-b25	Exclude	The article reviews access and benefit-sharing (ABS) laws in aquaculture. It does not document government–university–industry interactions or innovation system collaboration.	The paper analyzes legal frameworks governing genetic resources and traditional knowledge and identifies gaps between policy and implementation. It does not examine institutional partnerships or innovation processes.	The study is global and legal in focus, with no empirical Triple Helix interaction or Philippine innovation system analysis. It does not meet inclusion criteria.
SID-b26	Exclude	The review examines antibiotic dispensing practices in Asia. It does not analyze government–university–industry collaboration or innovation system dynamics.	The paper identifies regional patterns of antibiotic misuse, health system weaknesses, and counseling gaps. It does not examine institutional innovation processes or cross-sector governance.	Despite Philippine author affiliation, the study is a non-empirical review without documented government–university–industry interactions. It does not meet inclusion criteria.
SID-b27	Exclude	The article reviews inclusive business models in aquaculture value chains using a global value chain framework. It does not analyze government–university–industry interactions or innovation system structures.	The paper synthesizes inclusive business approaches such as contract farming and PPPs and assesses economic and social upgrading outcomes. It does not examine institutional innovation dynamics or Triple Helix coordination.	The study lacks empirical evidence of government–university–industry collaboration and has no Philippine innovation system focus. It does not meet inclusion criteria.
SID-b28	Exclude	The study assesses psychological assessment practices among Filipino practitioners. It does not analyze government–university–industry interactions or innovation system collaboration.	The paper provides empirical data on training, competencies, and professional challenges in psychological assessment. It identifies gaps in tools and supervision but does not address institutional innovation processes.	Although Philippine empirical research, it contains no documented government–university–industry collaboration. It does not meet inclusion criteria.
SID-b29	Exclude	The study reports a medical education role-play exercise on socioeconomic determinants of health. It does not examine government–university–industry interactions or innovation systems.	The paper contributes to pedagogical practice in medical education through experiential learning design. It does not analyze institutional collaboration or innovation governance.	As a non-empirical educational report with no documented Triple Helix interactions or Philippine innovation system focus, it does not meet inclusion criteria.
SID-b30	Exclude	The study evaluates implementation of the Ecological Solid Waste Management Act at the barangay level. It involves government and community actors but does not document government–university–industry collaboration or innovation system dynamics.	The paper assesses compliance levels, implementation gaps, and community participation in waste management. It focuses on policy execution rather than innovation processes or cross-sector institutional linkages.	Despite being empirical and Philippine-focused, the study lacks documented government–university–industry interactions and does not analyze innovation system dynamics. It does not meet Triple Helix inclusion criteria.

SID-b31	Exclude	The study examines internet-based instruction integrated with innovation education in higher education settings. It does not document government–university–industry interactions or innovation system collaboration. Government actors are not included, and industry engagement is not analyzed as part of structured innovation processes.	The paper analyzes how innovation education and internet-based instruction influence entrepreneurial student team collaboration and strategic innovation outcomes such as business model innovation. It focuses on intra-university educational processes and team performance rather than cross-sector innovation systems or institutional coordination.	Although empirical and innovation-related in an educational context, the study does not provide evidence of structured government–university–industry collaboration or innovation system dynamics. Its focus is limited to student-level innovation education outcomes and does not meet Triple Helix inclusion criteria.
SID-b32	Exclude	The study assesses community knowledge, attitudes, and practices regarding rabies and related legislation. It does not analyze government–university–industry interactions or innovation system processes.	The paper provides empirical evidence on public awareness and behavioral factors influencing rabies prevention and compliance with the Anti-Rabies Act. It identifies demographic and contextual determinants of knowledge and practice outcomes but does not address institutional collaboration or innovation governance.	Despite Philippine empirical grounding and policy relevance, the study does not document government–university–industry collaboration or innovation system dynamics. It focuses on public health behavior rather than cross-sector innovation processes and does not meet Triple Helix inclusion criteria.
SID-b33	Exclude	The study analyzes the impact of rural electrification on agricultural productivity using Philippine government datasets. It does not examine structured government–university–industry interactions or innovation system collaboration.	The paper provides empirical evidence linking electrification and infrastructure access to agricultural productivity outcomes in MIMAROPA. It identifies contextual constraints such as electricity cost and income limitations but does not analyze institutional linkages or innovation processes.	Although Philippine-based and data-driven, the study does not document government–university–industry collaboration or innovation system dynamics. The use of government data and academic analysis does not constitute Triple Helix interaction, and the study does not meet inclusion criteria.
SID-b34	Exclude	The study examines total rewards management practices in Philippine healthcare companies. It does not analyze government–university–industry interactions or innovation system collaboration.	The paper provides descriptive findings on HR practices, including compensation, benefits, and performance recognition in healthcare firms. It identifies organizational challenges such as burnout and workforce dissatisfaction but does not address innovation processes or institutional coordination.	Despite empirical and Philippine industry focus, the study does not document government–university–industry interactions or innovation system governance. It centers on HR management practices and does not meet Triple Helix inclusion criteria.
SID-b35	Exclude	The study evaluates the Philippine innovation ecosystem using Oxentia’s “Elements Review” framework and	The study identifies structural strengths and weaknesses across ecosystem pillars and highlights functional imbalances	Although it is an original Philippine-focused study, it does not provide empirical evidence of explicit or implicit

		categorizes actors into Universities/RTOs, Government, Businesses/Industry, and Third Sector. While it discusses the presence of technology transfer offices, grant programs (e.g., DOST, PCIEERD), startup legislation, venture capital, incubators (e.g., IdeaSpace), and business networks, it does not empirically document specific interactions, collaborations, partnerships, or relational dynamics among named government, university, and industry actors. The analysis remains categorical and descriptive rather than interactional.	(e.g., weak third sector support, moderate government support, limited high-tech firms). It contributes to a macro-level diagnostic assessment but does not analyze relational mechanisms or institutional interplay.	government–university–industry interactions. It evaluates ecosystem components independently rather than analyzing Triple Helix relationships, so it does not meet the strict inclusion criteria for a qualitative meta-synthesis of triple helix interactions.
SID-b36	Exclude	The study examines language ownership, identity, and functional nativeness in a multilingual Philippine society within educational and social settings. It does not provide empirical evidence of government–university–industry interactions or any structured collaboration among these actors in innovation processes or within an innovation system framework.	The study contributes to sociolinguistics by analyzing language ideology, identity construction, and perceptions of nativeness in multilingual contexts. It informs debates on language policy and multilingual education but does not address institutional collaboration, innovation governance, or systemic interaction among Triple Helix actors.	Although Philippines-focused and empirical, the study contains no documented government–university–industry interactions and no analysis of innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b37	Exclude	The study examines graduate employability and develops an alumni directory. It does not present empirical evidence of government–university–industry interactions or structured collaboration within innovation system processes.	The study provides descriptive evidence on graduate employment outcomes and proposes expanded institutional partnerships to improve employability. It does not analyze innovation-related collaboration, knowledge exchange mechanisms, or systemic coordination among Triple Helix actors.	Despite being Philippine-focused and empirical, the study lacks documented Triple Helix interactions and does not examine innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b38	Exclude	The study analyzes employment outcomes and career trajectories of graduates in Public Administration, Governance, and Development Management. It does not provide empirical evidence of structured	The study offers descriptive tracer data on job placement and program relevance. It does not examine institutional collaboration, knowledge transfer, or cross-sector governance linked to innovation systems.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation system dynamics. It does not meet the inclusion

		government–university–industry interactions or collaborative innovation processes.		criteria for a Triple Helix qualitative meta-synthesis.
SID-b39	Exclude	The tracer study assesses employment outcomes of business administration graduates. It does not empirically analyze structured interactions among government, universities, and industry as part of innovation system processes.	The study provides descriptive insights on graduate employability and curriculum alignment with labor market needs. It does not examine institutional collaboration or innovation-related coordination among Triple Helix actors.	Although Philippine-focused and empirical, the study does not provide evidence of government–university–industry interactions relevant to innovation systems. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b40	Exclude	The study examines employment outcomes of Bachelor of Agricultural Technology graduates. It does not provide empirical analysis of government–university–industry interactions or collaborative innovation processes.	The study contributes descriptive insights on employability and curriculum relevance. It does not analyze systemic collaboration, institutional linkages, or innovation governance among Triple Helix actors.	Although Philippine-focused and empirical, the study lacks documented Triple Helix interactions and does not address innovation system dynamics. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b41	Exclude	The study develops a web-based ecotourism information system using inputs from government entities, academic sources, and tourism stakeholders. It does not document structured government–university–industry interactions as coordinated innovation processes.	The study contributes a functional digital tourism tool and reports stakeholder input in system development. It does not analyze institutional collaboration, innovation governance, or systemic interaction among Triple Helix actors.	Although empirical and Philippine-focused, the study does not provide analytical evidence of government–university–industry collaboration. The absence of documented Triple Helix interaction disqualifies it from inclusion in the qualitative meta-synthesis.
SID-b42	Exclude	The study analyzes youth political participation through a critical philosophical lens. It does not provide empirical evidence of government–university–industry interactions or structured collaboration among these actors in innovation processes or within an innovation system framework.	The study contributes to political communication and civic engagement scholarship by examining youth interpretations of political rhetoric and participation. It addresses cognitive and attitudinal dimensions of civic engagement but does not analyze institutional collaboration, knowledge exchange, or innovation system dynamics.	Although Philippines-focused and empirical, the study does not document government–university–industry interactions or any innovation-related institutional collaboration. It does not meet the strict inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b43	Exclude	The study conducts ecological assessment of reef fish populations in Dumanquillas Bay. It does not analyze structured interactions among	The study provides baseline ecological data on species richness, abundance, and conservation status. It identifies environmental concerns such as	Although Philippines-focused and empirical, the study does not document government–university–industry interactions or innovation system

		government, universities, and industry actors in innovation processes or governance systems.	overfishing and habitat degradation but does not examine cross-sector collaboration for innovation or governance reform.	dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b44	Exclude	The study examines awareness and utilization of remittance and payment services. It does not provide empirical evidence of government–university–industry interactions or structured collaboration within an innovation system.	The study offers descriptive findings on financial service accessibility and user satisfaction. It identifies consumer-level patterns but does not analyze institutional collaboration or innovation-related coordination among sectors.	Although Philippines-focused and empirical, the study does not document Triple Helix interactions or innovation system processes. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b45	Exclude	The study investigates microbial degradation of industrial pollutants in river sediments. It does not present empirical evidence of government–university–industry interactions or collaborative innovation processes.	The study contributes scientific evidence on bioremediation potential and microbial activity in polluted environments. It focuses on environmental assessment and laboratory findings rather than institutional collaboration or innovation governance.	Although Philippines-focused and empirical, the study does not document structured government–university–industry interactions or innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b46	Exclude	The study examines business adaptability during COVID-19. It does not provide empirical evidence of government–university–industry interactions or coordinated innovation processes.	The study provides empirical data on financial and operational adaptation strategies in microbusinesses and their relation to profitability. It focuses on firm-level resilience rather than systemic innovation or cross-sector collaboration.	Although Philippines-focused and empirical, the study does not document government–university–industry interactions or innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b47	Exclude	The article reviews additive manufacturing applications during COVID-19. It does not present empirical analysis of structured government–university–industry interactions as part of innovation systems.	The article synthesizes global developments in 3D printing for emergency production of medical supplies and discusses technical and regulatory issues. It does not analyze institutional collaboration or innovation governance structures.	Although it includes references to universities, industry, and government agencies, it lacks empirical documentation of their interactions as coordinated innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b48	Exclude	The paper examines trade secret law and access to health information. It does not provide empirical evidence of government–university–industry interactions or innovation system collaboration.	The study offers a conceptual and normative analysis of legal tensions between intellectual property protection and public health access. It focuses on policy interpretation rather than institutional innovation dynamics.	Although globally relevant, the study is conceptual and does not document Triple Helix interactions or innovation processes. It does not meet the inclusion criteria for a qualitative meta-synthesis.

SID-b49	Exclude	The article discusses vaccine hesitancy in the Philippines. It does not provide empirical evidence of government–university–industry interactions or structured collaboration in innovation processes.	The article presents clinical and public health reflections on vaccine hesitancy and communication challenges. It contributes interpretive insights but does not analyze institutional collaboration or innovation system dynamics.	Although Philippines-focused, the article is a perspective piece and does not document government–university–industry interactions. It does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b50	Exclude	The study examines digital marketing adoption in farm tourism. It does not analyze structured government–university–industry interactions or innovation system collaboration.	The study provides empirical insights into consumer behavior and technology adoption in tourism marketing. It focuses on user-level and firm-level factors rather than institutional innovation processes.	Although Philippines-focused and empirical, the study does not document cross-sector innovation collaboration or Triple Helix interactions. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b51	Exclude	The article surveys endocrine care and training disruptions across ASEAN. It does not provide empirical evidence of government–university–industry interactions within innovation systems.	The study synthesizes professional reports on healthcare disruptions and adaptive responses during COVID-19. It focuses on service delivery and training impacts rather than institutional innovation collaboration.	Although empirical and multinational, the article does not document structured Triple Helix interactions or innovation system processes. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b52	Exclude	The study evaluates teachers' assessment practices within outcomes-based education in the Philippine education system. It does not provide empirical evidence of government–university–industry interactions or structured collaboration among these actors in innovation processes.	The study examines alignment of assessment practices with OBE principles and identifies implementation gaps in instructional practice. It contributes to curriculum implementation and teacher development but does not address institutional collaboration or innovation system dynamics.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation-related cross-sector collaboration. It focuses on pedagogical practice and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b53	Exclude	The article provides a literary analysis of Birds of Prey using sociological and biographical frameworks. It does not examine government–university–industry interactions or innovation system dynamics.	The study contributes to Philippine literary and cultural criticism by interpreting socio-political themes and narrative meaning. It focuses on textual interpretation and authorial context rather than institutional or innovation-related analysis.	As a theoretical literary analysis with no empirical data, the study does not document government–university–industry interactions. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b54	Exclude	The study analyzes economic impacts of natural disasters and policy responses. It does not provide empirical evidence of government–university–industry	The study quantifies disaster impacts on economic sectors and identifies vulnerability patterns. It focuses on macro-level impact assessment and	Although Philippine-focused and empirical, the study does not document cross-sector collaboration or innovation processes among government, universities, and industry. It does not

		interactions or structured innovation collaboration.	policy implications rather than innovation system dynamics.	meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b55	Exclude	The study examines macroeconomic determinants of Philippine economic growth. It does not analyze government–university–industry interactions or innovation system collaboration.	The study identifies statistical relationships among macroeconomic variables such as debt, investment, and GDP growth. It provides economic policy insights but does not address institutional collaboration or innovation governance.	Although Philippine-focused and empirical, the study does not document Triple Helix interactions or systemic innovation processes. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b56	Exclude	The study evaluates returns to higher education programs for subsidy allocation. It does not provide empirical evidence of government–university–industry interactions in innovation processes.	The study offers an economic framework for assessing public versus private returns of academic programs to inform funding decisions. It focuses on resource allocation efficiency rather than innovation system collaboration.	Although Philippine-focused and empirical, the study does not document cross-sector collaboration or innovation dynamics among government, universities, and industry. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b57	Exclude	The study develops a graphene-based gas sensor using machine learning. It does not provide empirical evidence of structured government–university–industry interactions or innovation system collaboration.	The study contributes to nanosensor design and vapor classification using advanced sensing and computational methods. It focuses on technical performance rather than institutional innovation processes.	Although it involves academic institutions, the study does not document government–university–industry collaboration in innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b58	Exclude	The study analyzes corporate performance indicators and stakeholder relationships. It does not examine structured government–university–industry interactions or innovation system collaboration.	The study applies statistical methods to evaluate enterprise performance across stakeholder groups. It focuses on corporate governance metrics rather than institutional innovation dynamics.	Although empirical, the study does not document triple helix interactions among government, universities, and industry in innovation processes. It is not Philippines-focused and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b59	Exclude	The study examines Filipino cultural values and social norms. It does not analyze government–university–industry interactions or innovation system collaboration.	The study provides sociocultural analysis of Filipino values and their implications for behavior and social organization. It does not address institutional collaboration or innovation governance.	Although Philippines-focused, the study does not document cross-sector innovation interactions or Triple Helix dynamics. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b60	Exclude	The study evaluates higher education curriculum effectiveness. It does not provide empirical evidence of government–university–industry	The study assesses curriculum performance and identifies areas for academic improvement. It focuses on internal educational evaluation rather than cross-sector innovation processes.	The study does not document institutional collaboration across government, universities, and industry. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

		interactions or innovation system collaboration.		
SID-b61	Exclude	The article examines ethical and legal dimensions of embryo adoption. It does not analyze government–university–industry interactions or innovation system dynamics.	The study provides a conceptual review of ethical and regulatory issues in reproductive medicine. It focuses on normative and policy debates rather than empirical innovation processes.	As a non-empirical conceptual analysis without Philippines focus and without documented cross-sector collaboration, the article does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b62	Exclude	The study examines how globalization affects workplace ethics, employee behavior, and work performance. It engages organizational and industry contexts but does not provide empirical evidence of government–university–industry interactions or analyze innovation system dynamics or cross-sector collaboration.	The paper explains how global economic integration and international labor trends influence ethics and productivity at the individual and organizational levels. It identifies challenges and benefits for employee behavior under globalization but does not examine institutional mechanisms or systemic innovation processes.	The study is empirical but not Philippines-focused and does not document government–university–industry interactions, co-creation processes, or cross-sector collaboration. It contains no evidence of Triple Helix dynamics or innovation system engagement; therefore, it is excluded from the qualitative meta-synthesis.
SID-b63	Exclude	The study evaluates technological methods for converting agricultural waste into bio-briquettes and assesses product quality parameters. It does not provide empirical evidence of government–university–industry collaboration or innovation system interaction.	The paper contributes technical knowledge on bio-briquette production, including process methods, optimization, and quality assessment. Its contribution is limited to engineering and materials processing without institutional or innovation governance analysis.	As a technical review without documented government–university–industry interactions, co-innovation processes, or Philippines-specific innovation system relevance, the study does not meet Triple Helix inclusion criteria and is excluded.
SID-b64	Exclude	The study presents a technical design for urban water infrastructure and stormwater management in smart cities. It does not examine government–university–industry interactions or institutional collaboration in innovation processes.	The paper contributes engineering design models and performance-oriented solutions for urban water systems. It focuses on technical optimization and system design without relational or governance analysis.	The study lacks evidence of cross-sector collaboration, co-creation, or innovation system dynamics involving government, universities, and industry. It does not meet the Triple Helix criteria and is excluded.
SID-b65	Exclude	The study analyzes illicit tobacco market trends in relation to taxation policy in the Philippines. It references government policy context but does not examine structured government–university–industry interactions.	The paper provides quantitative estimates of illicit tobacco market trends and evaluates the impact of the Sin Tax Law. It contributes to fiscal and public health policy analysis without institutional collaboration analysis.	Despite being empirical and Philippines-focused, the study does not document Triple Helix interactions, co-innovation processes, or cross-sector governance. It is excluded from the meta-synthesis.

SID-b66	Exclude	The study examines entrepreneurial leadership and employee productivity in MSMEs. It does not provide evidence of government–university–industry interaction or innovation system collaboration.	The paper analyzes how entrepreneurial leadership skills influence workforce productivity and organizational performance in MSMEs. Its focus is organizational behavior and human resource management.	The study lacks documented cross-sector collaboration or innovation system dynamics involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b67	Exclude	The study evaluates pedestrian performance using quantitative and qualitative measures in transportation or urban planning contexts. It does not address government–university–industry collaboration.	The paper integrates pedestrian behavior data with infrastructure performance metrics to assess safety and efficiency. It remains technical and operational.	The study does not document institutional collaboration or innovation processes across government, universities, and industry. It is excluded from the Triple Helix meta-synthesis.
SID-b68	Exclude	The study analyzes language use and politeness strategies in social media. It does not examine institutional collaboration or innovation system interactions.	The paper contributes insights into sociolinguistic patterns, digital communication practices, and online engagement strategies.	There is no evidence of government–university–industry interactions or innovation system relevance. The study is excluded.
SID-b69	Exclude	The study conducts genomic surveillance of SARS-CoV-2 in the Philippines. It is biomedical in scope and does not analyze institutional collaboration among government, universities, and industry.	The paper identifies viral transmission clusters and provides epidemiological insights into early COVID-19 spread in the Philippines.	Despite Philippine institutional involvement, the study does not document Triple Helix interactions or innovation system collaboration. It is excluded.
SID-b70	Exclude	The study examines phytoremediation using Philippine bamboo species for heavy metal removal. It does not analyze government–university–industry collaboration.	The paper demonstrates copper removal efficiency and provides kinetic modeling for phytoremediation systems.	The study is technical and experimental without evidence of cross-sector collaboration or innovation system engagement. It is excluded.
SID-b71	Exclude	The study analyzes income levels and socioeconomic conditions of Indigenous Aeta households. It does not examine government–university–industry interactions or innovation system processes.	The paper provides descriptive socioeconomic analysis of income sources and livelihood conditions of Aeta communities.	The study lacks evidence of cross-sector collaboration or institutional innovation dynamics. It does not meet Triple Helix inclusion criteria and is excluded.
SID-b72	Exclude	The study examines the relationship between economic globalization, human development, and growth across ASEAN countries. It is policy-relevant but does not provide empirical evidence of	The paper establishes statistical relationships between globalization and socioeconomic development indicators. It identifies macro-level development	The study includes the Philippines but does not document Triple Helix interactions, co-creation processes, or cross-sector innovation system dynamics.

		government–university–industry interactions or innovation system collaboration.	patterns without examining institutional collaboration or innovation processes.	It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b73	Exclude	The study analyzes transport infrastructure and labor productivity. It does not document government–university–industry collaboration or innovation system processes.	The paper evaluates how transportation systems affect urban labor productivity and identifies efficiency constraints and performance impacts in infrastructure systems.	Although empirical and Philippine-focused, the study contains no evidence of cross-sector collaboration or innovation governance among government, universities, and industry. It is excluded from the Triple Helix meta-synthesis.
SID-b74	Exclude	The study examines farmers’ behavioral intention to adopt rice technologies. It does not analyze structured interactions among government, university, and industry actors.	The paper identifies behavioral determinants of technology adoption, including perceived usefulness and ease of use, informing extension and dissemination strategies.	The study does not document government–university–industry collaboration or innovation system dynamics. It does not meet the inclusion criteria.
SID-b75	Exclude	The study analyzes skill requirements in online IT job postings. It does not examine institutional interactions or innovation system processes.	The paper identifies labor market skill demands in the IT sector through job posting analysis.	There is no evidence of government–university–industry interaction or innovation governance analysis. The study is excluded.
SID-b76	Exclude	The study develops an Android application using hybrid encryption. It does not analyze government, university, and industry collaboration.	The paper contributes technical knowledge in cryptography and mobile application security.	The study lacks evidence of cross-sector collaboration or innovation system engagement. It does not meet inclusion criteria.
SID-b77	Exclude	The study examines anxiety and coping strategies among nursing students in online learning. It does not involve Triple Helix actors or innovation system analysis.	The paper provides insights into student mental health and adaptation to online education environments.	The study contains no government–university–industry interaction data and is not relevant to innovation system analysis. It is excluded.
SID-b78	Exclude	The study on artificial insemination in dairy goats does not provide documented government–university–industry interactions or innovation system analysis.	The paper focuses on technical outcomes in livestock breeding and artificial insemination techniques.	There is no confirmed evidence of cross-sector collaboration or co-innovation processes. It does not meet inclusion criteria.
SID-b79	Exclude	The study applies 3D printing to historical artifact replication. It does not analyze institutional collaboration or innovation system dynamics.	The paper contributes technical insights into additive manufacturing for heritage preservation applications.	The study lacks government–university–industry interaction analysis and does not meet Triple Helix inclusion criteria.

SID-b80	Exclude	The study addresses aquatic foods and nutrition but provides no evidence of government–university–industry interaction or innovation system relevance.	The paper provides general insights into aquatic food systems and nutrition strategies.	There is no empirical documentation of Triple Helix collaboration or Philippine innovation system relevance. It is excluded.
SID-b81	Exclude	The study examines entrepreneurial characteristics, motivations, and challenges in Ifugao. It does not explicitly confirm government–university–industry interactions.	The paper identifies entrepreneurial motivations, constraints, and contextual conditions affecting entrepreneurship and local economic activity.	There is no empirical documentation of Triple Helix collaboration or Philippine innovation system relevance. It is excluded.
SID-b82	Exclude	The study discusses AI policies for urban mobility. It does not provide empirical evidence of government–university–industry interactions, innovation processes, or Philippine-specific innovation system dynamics.	The paper provides policy-oriented discussion on AI frameworks and urban mobility strategies. It does not analyze institutional collaboration, co-creation, or cross-sector innovation mechanisms.	The study does not document government–university–industry interactions or collaborative innovation processes and is not Philippines-focused. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b83	Exclude	The paper addresses climate change, air pollution, and biodiversity impacts on allergic diseases. It does not present empirical government–university–industry interactions or innovation system analysis.	The paper synthesizes evidence and provides policy recommendations on environmental health risks. It does not examine institutional collaboration or innovation governance.	The study is a conceptual and policy-oriented white paper without empirical evidence of Triple Helix collaboration in the Philippines. It does not meet inclusion criteria.
SID-b84	Exclude	The paper provides clinical recommendations for peripheral artery disease. It does not document government–university–industry interactions or innovation processes.	The paper contributes clinical guidance for disease management. It does not address institutional collaboration or innovation system dynamics.	The study is non-empirical with no evidence of cross-sector collaboration and is not relevant to Triple Helix innovation analysis in the Philippines.
SID-b85	Exclude	The study assesses environmental impacts of pesticide use in paddy ecosystems. It does not examine government–university–industry interactions or innovation system processes.	The study provides environmental impact assessment of agricultural pesticide use. It does not analyze institutional collaboration or innovation governance.	The study lacks evidence of cross-sector collaboration and Philippine Triple Helix interactions. It does not meet inclusion criteria.
SID-b86	Exclude	The study examines urban agriculture in Cebu City using surveys and interviews. It identifies government, university, NGO, and financing institutions only as	The study identifies constraints (limited space, lack of training, insufficient capital) and proposes interventions such as land allocation, subsidies, and training programs for urban agriculture.	The study does not document government–university–industry interactions or coordination mechanisms. Institutional actors are referenced only in recommendations, not as empirically

		proposed actors, not as interacting entities.		observed collaborators. It does not meet Triple Helix inclusion criteria.
SID-b87	Exclude	The study examines microfinance institutions in Nueva Ecija within a national policy context. It does not analyze government–university–industry interactions or innovation system dynamics.	The study reports high client satisfaction and strong MFIs’ service performance in financial inclusion and microenterprise support.	The analysis is limited to institutional performance and client outcomes. Government is only a policy context, and universities are not engaged. No cross-sector collaboration or innovation processes are documented. It does not meet inclusion criteria.
SID-b88	Exclude	The study analyzes TRAIN Law impacts on consumption, savings, and unemployment. It does not examine government–university–industry interactions.	The study provides empirical macroeconomic evaluation of tax reform effects on household and labor outcomes.	The study does not document cross-sector collaboration or innovation system dynamics. It focuses solely on macroeconomic policy outcomes and does not meet Triple Helix criteria.
SID-b89	Exclude	The study evaluates Integrated Water Resources Management (IWRM) implementation in Palawan. It does not analyze government–university–industry interactions or innovation processes.	The study reports medium-low implementation levels and identifies fragmented laws, weak coordination, and lack of integrated data systems in water governance.	The study assesses institutional implementation without analyzing cross-sector collaboration or co-innovation. It does not meet inclusion criteria.
SID-b90	Exclude	The study examines women’s participation in MSMEs in the Philippines with ASEAN comparison. It does not analyze government–university–industry interactions.	The study provides descriptive evidence on barriers and enabling conditions affecting women entrepreneurs’ participation in MSMEs.	Government programs are treated as contextual variables only. No institutional collaboration or innovation system interactions are analyzed. It does not meet inclusion criteria.
SID-b91	Exclude	The study evaluates COVID-19 control strategies in four Philippine municipalities. It does not analyze government–university–industry interactions.	The study compares perceived effectiveness of public health interventions using statistical analysis and identifies differences across municipalities.	The study focuses on government policy implementation and perception analysis. Universities and industry actors are not engaged in collaboration. It does not meet Triple Helix criteria.
SID-b92	Exclude	The study examines livelihood activities of the Mamanwa community in Samar. It does not analyze government–university–industry interactions.	The study identifies subsistence-based income sources and constraints in entrepreneurship, including lack of training, tools, and marketing capacity.	Government, universities, and industry actors are mentioned only as potential support in recommendations, not as observed collaborators. The study does not document cross-sector innovation processes and does not meet inclusion criteria.

SID-b93	Exclude	The study assesses fish species richness and river physicochemical parameters in Mt. Hamiguitan Range Wildlife Sanctuary. It does not document government–university–industry interactions or innovation system processes.	The study provides empirical biodiversity and water quality data on freshwater ecosystems within a protected area. It contributes to environmental baseline knowledge but does not address institutional or innovation dynamics.	The study contains no evidence of government–university–industry collaboration, coordination mechanisms, or co-innovation processes. It focuses exclusively on ecological assessment and does not meet inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b94	Exclude	The study measures heavy metal contamination in fish from Lake Lanao. It does not document government–university–industry interactions or innovation system processes.	The study provides empirical data on food safety and environmental contamination levels in a freshwater ecosystem. It contributes to public health risk assessment but not to institutional collaboration analysis.	The study does not analyze cross-sector collaboration or innovation processes among government, universities, and industry actors. It is limited to environmental and food safety measurement and does not meet inclusion criteria.
SID-b95	Exclude	The study analyzes meteorological drivers of particulate matter and ozone trends in a tropical urban environment. It does not document government–university–industry interactions or innovation system dynamics.	The study provides atmospheric science evidence on air pollution trends and meteorological influences in urban air quality. It contributes to environmental monitoring and climate-related analysis.	The study does not include evidence of multi-actor collaboration among government, universities, and industry. It is a technical environmental analysis without innovation system relevance and does not meet inclusion criteria for a Triple Helix meta-synthesis.
SID-b96	Exclude	The study evaluates industry partners in university internship programs in Business Administration. It examines university–industry internship arrangements without analyzing government–university–industry interactions or innovation system processes.	The study analyzes factors influencing internship implementation, including industry partner profile, student characteristics, implementation quality, feedback, objective attainment, and reported problems. Statistical analysis (t-test, ANOVA, Pearson correlation) establishes relationships between implementation quality and internship outcomes.	The study documents only university–industry interaction in internship training. Government appears solely through CHED guidelines and is not analyzed as an interacting actor. Universities and industry are not situated within a coordinated innovation system involving government participation. There is no evidence of government–university–industry collaboration, co-innovation processes, or innovation system dynamics. The study does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b97	Exclude	The study assesses human health risks from heavy metals in road dust near mining sites. It focuses on environmental	The study provides quantitative assessment of heavy metal contamination and associated human	The study does not document government–university–industry interactions, coordination mechanisms,

		toxicology without examining government–university–industry interactions or innovation system processes.	health risks in mining-affected areas, contributing to environmental health risk profiling.	or co-innovation processes. It is confined to environmental exposure and health risk assessment and does not engage with institutional collaboration or innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b98	Exclude	The study evaluates implementation of the STEM strand in senior high schools in Zambales. It focuses on school-level educational implementation without analyzing government–university–industry interactions or innovation system processes.	The study assesses STEM implementation across domains including college preparation, technology integration, STEM learning experiences, teacher readiness, and school culture. It reports no significant differences across schools and recommends enhanced teacher training and expanded stakeholder involvement.	The study does not document structured collaboration among government education agencies, universities, and industry actors. References to “industry connections” are conceptual and not supported by empirical evidence of interaction. Universities are not engaged as innovation partners, and industry involvement is not operationalized as collaboration. The analysis remains internal to the education system and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b99	Exclude	The study assesses biosafety and biosecurity in the Philippines and develops a National Biorisk Management Framework. It focuses on policy assessment without examining government–university–industry interactions or innovation system processes.	The study identifies policy gaps in biosafety education, professional development, and institutional coordination. It reports weak implementation and unclear emergency coordination mechanisms and proposes a national framework for risk reduction and management.	The study does not provide empirical evidence of government–university–industry collaboration. References to training, capacity-building, and policy reform do not constitute documented cross-sector interaction. The analysis is limited to policy design and system improvement and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b100	Fully Include	The study analyzes the development of eHealth and telemedicine in the Philippines through literature review and key informant interviews. It explicitly covers government health agencies, university-based research institutions, and private healthcare providers and ICT actors within the national eHealth system.	The study maps the evolution of Philippine eHealth (1997–2020), including eLearning, eMedicine, eRecords, eHealth policy initiatives, and eSurveillance. It evaluates telemedicine expansion across public and private providers and assesses alignment with the WHO–ITU framework,	The study explicitly documents a national health innovation system involving government policy actors, university-based research leadership (e.g., National Telehealth Center), and private sector telemedicine providers. It analyzes sectoral roles and interactions in eHealth development and identifies system

			identifying system-wide gaps in institutionalization and coordination.	integration challenges. This constitutes clear government–university–industry interaction within a national innovation system and meets the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b101	Exclude	The study examines challenges and success factors in student-led online businesses during the pandemic. It focuses on individual student entrepreneurs and does not document government–university–industry interactions or innovation system processes.	The study identifies barriers in online business development, including capital constraints, inflation, digital platform usability issues, and branding difficulties. It also identifies success factors such as effective marketing, competitive pricing, promotional strategies, and customer loyalty, derived from thematic analysis of focus group discussions.	The study does not provide evidence of collaboration or structured interaction among government, universities, and industry actors. Universities are not analyzed as institutional partners in entrepreneurship support, government programs are not examined as components of an innovation system, and industry linkages are limited to market behavior rather than collaboration. The analysis is confined to individual entrepreneurial experience and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b102	Exclude	The study assesses farm tourism potential and agricultural conditions in Hermosa, Bataan. It focuses on farm-level characteristics and farmer-reported challenges without documenting government–university–industry interactions or innovation system processes.	The study identifies farm tourism potential based on location, land size, scenic and cultural value, and traditional farming practices. It reports constraints including limited resources, fluctuating productivity, produce quality vulnerability, and income instability, and highlights farm tourism as an alternative livelihood option.	The study does not document structured collaboration among government agencies, universities, and industry actors. Institutional actors are mentioned only as general prospective partners in recommendations, without empirical evidence of coordination, joint implementation, or co-innovation processes. The analysis remains at the level of farm community conditions and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b103	Exclude	The study evaluates awareness and dissemination of the university’s vision, mission, goals, and objectives (VMGO) among personnel at Benguet State University. It focuses on internal university processes without examining	The study measures awareness, understanding, acceptability, clarity, and consistency of VMGO dissemination. It identifies brochures as the primary dissemination tool and reports variation in clarity perceptions across personnel	The study is limited to internal institutional communication and quality assurance within a single university. It does not involve government agencies such as CHED in an interactive or collaborative role, nor does it include

		government–university–industry interactions or innovation system dynamics.	groups, with higher awareness among faculty.	industry participation or external innovation partnerships. There is no evidence of cross-sector collaboration or Triple Helix interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b104	Exclude	The study examines rice production, farmgate pricing, and the Rice Competitiveness Enhancement Fund (RCEF) in Nueva Ecija. It references government subsidy programs but does not analyze government–university–industry interactions as a coordinated innovation system.	The study quantifies Nueva Ecija’s contribution to national rice production and analyzes relationships between supply fluctuations, farmgate prices, and farmer income. It evaluates the economic impact of rice tariffication and continued reliance on government production support.	The study does not document government–university–industry interactions, coordination mechanisms, or co-innovation processes. Government is represented only through RCEF as a policy instrument, universities and research institutions are not analytically engaged, and farmers are treated as individual producers rather than participants in an innovation network. The analysis is limited to production economics and policy evaluation and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b105	Exclude	The study examines the Environmental Kuznets Curve and CO ₂ emissions in the Philippines. It focuses on macroeconomic–environmental relationships without analyzing government–university–industry interactions or innovation system dynamics.	The study evaluates economic drivers of CO ₂ emissions and contributes to empirical testing of the Environmental Kuznets Curve hypothesis in the Philippine context.	The study does not provide evidence of government–university–industry interactions, coordination mechanisms, or innovation processes. It is limited to econometric analysis of environmental and economic indicators and does not engage with cross-sector collaboration. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b106	Exclude	The study examines burnout and occupational health among female factory workers. It focuses on workplace and health factors without analyzing government–university–industry interactions or innovation system processes.	The study provides insights into occupational burnout and organizational conditions affecting female workers in industrial settings.	The study does not document government–university–industry interactions, institutional collaboration, or innovation processes. It is confined to occupational health analysis and does not engage with system-level collaboration among Triple Helix actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b107	Exclude	The conference paper discusses vaccines in Asia without presenting original Philippine research or analyzing government–university–industry interactions or innovation systems.	The work provides general information on vaccines and immunization trends in Asia.	The study does not present empirical research involving government–university–industry interactions in the Philippines. It lacks evidence of collaboration or innovation system analysis and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b108	Exclude	The study explores student experiences in asynchronous online learning without examining government–university–industry interactions or innovation system processes.	The study identifies perceived benefits, challenges, and suggested improvements in online learning delivery.	The study does not document multi-actor collaboration among government, universities, and industry. It is confined to learner-level educational experience and does not engage with institutional innovation systems. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b109	Exclude	The study reviews psychological aspects of athlete health without analyzing government–university–industry interactions or innovation system dynamics.	The study synthesizes literature on athlete mental health and sports psychology.	The study does not involve empirical analysis of government–university–industry collaboration and is not situated within a Philippine innovation system context. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b110	Conditionally include	The study develops a school attendance monitoring system and may involve education authorities, universities, and IT providers depending on implementation context. It does not explicitly document these interactions in the abstract.	The study focuses on system development for attendance monitoring in schools and identifies potential improvements in educational administration efficiency.	Further evaluation is required to assess documented government–university–industry collaboration in system design, deployment, and evaluation.
SID-b111	Exclude	The study examines environmental conservation attitudes among senior high school students without analyzing government–university–industry interactions or innovation system processes.	The study assesses student awareness, attitudes, and behaviors toward environmental conservation.	The study does not document multi-actor collaboration among government, universities, and industry. It is limited to individual behavioral analysis within an educational context and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b112	Exclude	The study examines climate resilience in fisheries and does not document	The study provides conceptual and applied insights into fisheries climate	The study does not present empirical collaboration, co-innovation processes,

		government–university–industry interactions or innovation system dynamics. It lacks evidence of collaborative arrangements among actors within a Triple Helix framework.	resilience. It does not address structural relationships, coordination mechanisms, or innovation processes among institutional actors.	or institutional linkages among government, universities, and industry. It is confined to sectoral climate resilience analysis and does not satisfy Triple Helix criteria.
SID-b113	Exclude	The study examines characteristics of working children in the Philippines. It does not document government–university–industry interactions, innovation system processes, or structural and relational dynamics among Triple Helix actors.	Provides sociological and demographic analysis of child labor in the Philippines.	The study does not present evidence of collaboration, co-innovation, or institutional interaction among government, universities, and industry. It does not engage with Triple Helix functional, structural, or relational dimensions and therefore does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b114	Exclude	The study examines labor market restructuring in the Philippines under the Fourth Industrial Revolution (4IR), focusing on automation-induced job displacement, task-based employment analysis, job polarization, and gig work expansion. It does not analyze government–university–industry interactions as an innovation system.	Applies a task-based framework to labor market transformation, evaluates job polarization in the Philippine context, examines gig economy growth, and discusses policy implications for labor regulation, unemployment protection, and workforce development under 4IR conditions.	The study does not document collaboration, co-innovation processes, or institutional interaction among government, universities, and industry. Government is treated solely as regulator, universities as abstract knowledge producers, and industry as structural driver of labor change. The analysis remains within labor economics and policy interpretation of technological change and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b115	Exclude	The study examines medicine availability, affordability, and cardiovascular outcomes across countries. It does not document government–university–industry interactions in the Philippines or any innovation system processes.	Provides comparative global health analysis of access to medicines and cardiovascular outcomes.	The study lacks documented collaboration or institutional interaction among government, universities, and industry in the Philippine context. It does not address innovation system dynamics or co-innovation processes and does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b116	Exclude	The study examines awareness of green technologies among dairy MSMEs in Cagayan Valley. It does not document	Assesses technology awareness and adoption conditions among MSMEs, contributing to understanding of	The study does not provide evidence of institutional collaboration or coordinated innovation processes among government,

		government–university–industry interactions, including technology transfer, research collaboration, or policy-driven innovation support.	innovation readiness and potential barriers.	universities, and industry. It does not analyze relational or structural dynamics of the Triple Helix and does not meet inclusion criteria.
SID-b117	Exclude	The study focuses on household awareness of Achuete benefits. It does not involve government, university, or industry actors, nor does it document institutional collaboration or innovation system activity.	Provides descriptive insights into community awareness and knowledge of Achuete use.	The study is limited to consumer-level awareness and does not address institutional interaction, co-innovation, or Triple Helix system dynamics. It does not meet inclusion criteria.
SID-b118	Exclude	The study examines vermicomposting awareness and adoption among dairy cooperatives. It does not document government–university–industry collaboration in technology transfer or innovation facilitation.	Identifies perceived benefits and adoption barriers related to vermicomposting in cooperative settings.	The study lacks evidence of coordinated institutional involvement among government, universities, and industry actors. It does not demonstrate co-innovation or structured interaction within an innovation system and does not meet inclusion criteria.
SID-b119	Exclude	The study examines stakeholder perceptions of a university’s vision, mission, and program goals. It does not involve government or industry participation or interaction.	Contributes to institutional evaluation and internal academic development within a higher education context.	The study is confined to a single university context and does not document cross-sector interaction or innovation system engagement among government, universities, and industry. It does not meet inclusion criteria.
SID-b120	Exclude	The study is a historical or theoretical analysis of mercantilism and trade theory. It does not examine government–university–industry interactions or innovation system processes.	Provides analysis of economic thought and historical trade perspectives.	The study does not present empirical institutional collaboration or innovation dynamics among Triple Helix actors. It is not situated within a contemporary innovation system framework and does not meet inclusion criteria.
SID-b121	Exclude	The study focuses on epidemiological analysis of rabies-suspected animals. It does not document government–university–industry collaboration or innovation system engagement.	Provides descriptive epidemiological data on rabies cases relevant to public health surveillance.	The study does not evidence institutional collaboration, knowledge exchange, or co-innovation among government, universities, and industry. It remains within epidemiological reporting and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b122	Exclude	The study addresses productivity factors in remote work during a pandemic. It does not document government–university–industry interactions, innovation system processes, or collaborative arrangements among Triple Helix actors.	Examines individual and organizational determinants of productivity in remote work settings.	The study does not present empirical evidence of collaboration or interaction among government, universities, and industry. It does not analyze innovation system dynamics or inter-sectoral coordination and does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b123	Exclude	The work is a biographical or reflective account of Benito Legarda Jr. It does not analyze government–university–industry interactions or innovation system structures.	Provides narrative insight into the intellectual and public service contributions of the subject.	The study does not present empirical analysis of institutional collaboration or innovation processes among government, universities, and industry. It is not situated within a Triple Helix framework and does not meet inclusion criteria.
SID-b124	Exclude	The study examines research culture management within higher education institutions. It focuses exclusively on intra-university actors and does not include government or industry participation.	Identifies institutional practices that strengthen research productivity, leadership strategies, and faculty engagement within HEIs.	The study does not document government–university–industry interactions, co-innovation processes, or external institutional linkages. It is limited to internal academic governance and does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b125	Exclude	The study examines bio-aviation fuel supply chains. It does not document government–university–industry interactions or innovation system collaboration in the Philippine context.	Provides analysis of biofuel supply chain components and technical-logistical structures.	The study is a literature-based review without empirical evidence of collaboration among government, universities, and industry. It does not analyze relational or systemic innovation dynamics and does not meet inclusion criteria.
SID-b126	Exclude	The study addresses biodiversity policy from an economic and environmental perspective. It does not document government–university–industry interactions or innovation system collaboration.	Provides policy and theoretical insights on biodiversity governance and sustainability frameworks.	The study lacks empirical evidence of institutional collaboration or co-innovation among government, universities, and industry. It does not analyze Triple Helix structural or relational dynamics and does not meet inclusion criteria.
SID-b127	Exclude	The study focuses on biomedical analysis of a plant compound. It does not document government–university–	Provides scientific findings on bioactive compounds and their potential biomedical applications.	The study does not present evidence of collaboration, technology transfer, or institutional interaction among

		industry interactions or innovation system engagement in the Philippine context.		government, universities, and industry. It does not address innovation system dynamics and does not meet inclusion criteria.
SID-b128	Exclude	The study examines biosecurity readiness among smallholder pig farmers. It does not document structured interaction with government agencies or universities.	Assesses biosecurity practices, risk perception, and preparedness gaps among farmers.	The study does not provide evidence of government–university–industry collaboration, extension systems, or co-innovation processes. It remains at the level of industry-only analysis and does not meet inclusion criteria.
SID-b129	Exclude	The study focuses on awareness and significance of biosecurity. It does not document interactions among government, universities, and industry in the Philippines.	Provides awareness-based insights on biosecurity concepts and practices.	The study does not analyze institutional collaboration, policy engagement, or innovation system relationships among Triple Helix actors and does not meet inclusion criteria.
SID-b130	Exclude	The study examines blockchain adoption in higher education institutions. Inclusion depends on documented government–university–industry interactions such as regulatory frameworks, funding mechanisms, or technology partnerships.	Analyzes institutional adoption strategies, implementation challenges, and opportunities for emerging technology integration in higher education.	The analysis is limited to internal HEI adoption without external engagement, it does not satisfy inclusion requirements.
SID-b131	Exclude	If the study documents collaboration or interaction with government agencies and industry actors (e.g., policy support, technology providers, or applied partnerships), it meets Triple Helix criteria by demonstrating innovation system dynamics. If the analysis is limited to internal HEI adoption without external engagement, it does not satisfy inclusion requirements.	Provides analysis of vulnerability, ecosystem services, and adaptation conditions in fishing communities.	The study does not present evidence of institutional collaboration or co-innovation among government, universities, and industry. It does not address Triple Helix relational or systemic dynamics and does not meet inclusion criteria for a qualitative meta-synthesis.
SID-b132	Exclude	The study focuses on industry actors (cooperative boards and managers) and managerial preference formation. It does not document government–university–industry interactions or innovation system processes.	Examines governance preferences and managerial competency requirements within cooperatives.	The study does not provide empirical evidence of collaboration or interaction among government, universities, and industry. It does not analyze innovation system dynamics or inter-sectoral coordination and does not meet inclusion criteria for a Triple Helix meta-synthesis.

SID-b133	Exclude	The study is a book review and does not analyze government–university–industry interactions or innovation system collaboration.	Summarizes leadership concepts presented in the reviewed work.	The study is non-empirical and does not document institutional collaboration or innovation processes among Triple Helix actors. It does not meet inclusion criteria.
SID-b134	Exclude	The study focuses on composite tile and machinery development. It does not document government–university–industry collaboration in innovation, production, or technology transfer.	Presents a technical and applied material innovation with sustainability relevance.	The study does not provide evidence of structured interaction or collaboration among government, universities, and industry. It does not analyze innovation system dynamics and does not meet inclusion criteria.
SID-b135	Exclude	The study examines consumer and producer preferences in apparel design. It does not document government–university–industry interactions or innovation system processes.	Analyzes market preferences and design considerations in the apparel sector.	The study is limited to consumer behavior and product preference analysis and does not present evidence of institutional collaboration or co-innovation among Triple Helix actors. It does not meet inclusion criteria.
SID-b136	Exclude	The study reviews telehealth status and potential. It does not document government–university–industry collaboration or innovation system implementation in the Philippines.	Assesses telehealth readiness, barriers, and opportunities across Southeast Asia.	The study does not present empirical evidence of institutional collaboration or co-innovation among government, universities, and industry. It does not analyze Triple Helix relational dynamics and does not meet inclusion criteria.
SID-b137	Exclude	The study analyzes economic impacts of political rhetoric and policy. It does not document government–university–industry interactions or innovation system processes.	Examines policy-driven economic effects and political-economic outcomes.	The study is political-economic analysis and does not provide evidence of inter-sectoral collaboration or innovation system dynamics among Triple Helix actors. It does not meet inclusion criteria.
SID-b138	Exclude	The study focuses on environmental contamination at a dumpsite. It does not document government–university–industry collaboration in environmental management or innovation response.	Measures heavy metal contamination levels and environmental risk conditions.	The study is descriptive environmental science research and does not present evidence of institutional collaboration or innovation system engagement among Triple Helix actors. It does not meet inclusion criteria.
SID-b139	Exclude	The study assesses preparedness of Rural Health Units in health emergency management. It does not document government–university–industry interactions or cross-sector collaboration.	Evaluates RHU preparedness across emergency health system components and identifies capacity gaps, including psychosocial and resource limitations.	The study focuses exclusively on government health institutions and does not include universities or industry as interacting actors in innovation or

				emergency system development. It does not meet inclusion criteria.
SID-b140	Exclude	The study evaluates institutional capacity of higher education institutions. It does not analyze government–university–industry interactions as collaborative innovation processes.	Assesses HEI capacity across leadership, human resources, knowledge management, and linkage functions.	Although “linkages” are assessed, they are treated as internal capacity indicators rather than empirical government–university–industry collaboration. The study does not examine co-creation or innovation system dynamics and does not meet inclusion criteria.
SID-b141	Exclude	The study examines consumer behavior in food choices. It does not document government–university–industry interactions or innovation system dynamics.	Analyzes cultural determinants influencing food consumption behavior.	The study is not situated in the Philippine innovation system context and does not present evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria for a Triple Helix meta-synthesis.
SID-b142	Exclude	The study focuses on the technical development of construction materials. It does not document government–university–industry interactions, technology transfer mechanisms, or innovation system collaboration.	Contributes to material science and sustainable construction practices.	The study lacks empirical evidence of institutional collaboration among government, universities, and industry. It does not analyze relational, functional, or structural dynamics within an innovation system and does not meet inclusion criteria.
SID-b143	Exclude	The study examines students’ career perceptions within higher education and industry orientation. It does not document government–university–industry interactions or innovation system engagement.	Provides insights into student career readiness and employment expectations.	The study does not present empirical evidence of inter-sectoral collaboration or institutional interaction among government, universities, and industry. It does not analyze innovation system dynamics and does not meet inclusion criteria.
SID-b144	Exclude	The study focuses on development and appropriateness of educational materials in primary education. It does not document government–university–industry collaboration in curriculum development or educational innovation systems.	Contributes to mother tongue-based instructional material development and classroom implementation practices.	The study does not provide evidence of structured interaction among government, universities, and industry. It does not address innovation system dynamics or co-creation processes and does not meet inclusion criteria.

SID-b145	Exclude	The study examines tourism industry impacts and recovery strategies during COVID-19. It does not analyze government–university–industry interactions as an innovation system.	Identifies pandemic disruptions in tourism and proposes recovery strategies including digital transformation, workforce adaptation, and policy responses.	The study does not document empirical collaboration among government, universities, and industry. These actors are treated as contextual references only, not as interacting innovation system components. It does not meet inclusion criteria.
SID-b146	Exclude	The study is a regional review of grouper aquaculture. It does not document Philippine government–university–industry interactions or innovation system collaboration.	Provides an overview of aquaculture practices, challenges, and developments in Asia.	The study is descriptive and lacks empirical evidence of institutional collaboration among Triple Helix actors. It does not analyze innovation system dynamics and does not meet inclusion criteria.
SID-b147	Exclude	The study examines academic libraries and institutional coping strategies. It does not document government–university–industry interactions or innovation system collaboration.	Identifies operational challenges and adaptive strategies in academic library management.	The study is confined to university-level actors and does not include government or industry collaboration. It does not analyze Triple Helix relational or systemic dynamics and does not meet inclusion criteria.
SID-b148	Exclude	The study focuses on student experiences in educational program implementation. It does not document government–university–industry interactions or institutional collaboration.	Describes student-level challenges in program delivery and learning experiences.	The study does not analyze inter-sectoral collaboration or innovation system dynamics among government, universities, and industry. It remains learner-centered and does not meet inclusion criteria.
SID-b149	Exclude	The study examines student learning challenges in STEM education. It does not document government–university–industry interactions in STEM innovation or workforce development systems.	Identifies barriers to STEM learning and educational engagement.	The study does not present evidence of institutional collaboration or innovation system coordination among government, universities, and industry. It does not meet inclusion criteria.
SID-b150	Exclude	The study investigates internal school-level teaching and learning challenges. It does not document government–university–industry interactions or innovation system processes.	Develops grounded theoretical insights on institutional teaching and learning challenges.	The study is institutionally bounded and does not include inter-sectoral collaboration or innovation system engagement among government, universities, and industry. It does not meet inclusion criteria.
SID-b151	Exclude	The study examines professional challenges of internationally educated	Contributes to migration and professional integration literature.	The study is outside the Philippine innovation system context and does not

		Filipino social workers in Canada. It does not document Philippine government–university–industry interactions or innovation system processes.		provide evidence of government–university–industry collaboration. It does not meet inclusion criteria.
SID-b152	Exclude	The study focuses on teachers’ challenges during a global health crisis. It does not document government–university–industry interactions or innovation system collaboration.	Examines educational and institutional challenges experienced by teachers during crisis conditions.	The study does not provide empirical evidence of collaboration or coordination among government, universities, and industry. It does not analyze innovation system dynamics or inter-sectoral relational structures and does not meet inclusion criteria.
SID-b153	Exclude	The study examines production constraints among shrimp farmers. It does not document government–university–industry interactions or collaborative innovation processes.	Identifies sector-specific production challenges and operational constraints in shrimp farming.	The study does not present evidence of institutional collaboration or innovation system engagement among government, universities, and industry. It does not meet inclusion criteria.
SID-b154	Exclude	The study focuses on plant molecular genetics and gene characterization. It does not document government–university–industry interactions or innovation system processes in the Philippine context.	Contributes to scientific knowledge in plant genetics and molecular biology.	The study is limited to basic scientific research and does not provide evidence of inter-sectoral collaboration or innovation system dynamics. It does not meet inclusion criteria.
SID-b155	Exclude	The study examines student investment behavior in a university setting. It does not document government–university–industry interactions or innovation system engagement.	Analyzes financial behavior and investment decision-making among students.	The study is confined to individual-level financial behavior and does not present evidence of institutional collaboration or innovation system dynamics among Triple Helix actors. It does not meet inclusion criteria.
SID-b156	Exclude	The study examines circular economy governance in Australia. It does not address the Philippine innovation system or document Philippine government–university–industry interactions.	Provides comparative insights into circular economy governance and sustainability transitions.	The study lacks Philippine contextual relevance and does not provide evidence of government–university–industry interactions within the Philippine innovation system. It does not meet inclusion criteria.
SID-b157	Exclude	The study is a literature review on circular economy systems. It does not document empirical government–university–industry interactions in the Philippines.	Synthesizes conceptual and technical knowledge on material recovery and circular production systems.	The study is non-empirical and does not present evidence of institutional collaboration or innovation system dynamics among government,

				universities, and industry in the Philippine context. It does not meet inclusion criteria.
SID-b158	Exclude	The study develops a decision-making model for restaurant risk classification. It does not document government–university–industry interactions or innovation system collaboration in the Philippines.	Contributes to multi-criteria decision modeling and risk assessment methodology.	The study is methodological and does not provide evidence of inter-sectoral collaboration or innovation system engagement among government, universities, and industry. It does not meet inclusion criteria.
SID-b159	Exclude	The study examines client awareness of a prosecution office’s information dissemination strategies. It does not analyze government–university–industry interactions or innovation system dynamics.	Assesses effectiveness of government communication and information dissemination practices.	The study is limited to government internal communication and does not involve university or industry actors in collaborative innovation processes. It does not meet inclusion criteria.
SID-b160	Exclude	The study focuses on consumer preferences in the real estate sector. It does not document government–university–industry interactions or innovation system engagement.	Examines market preferences in residential property selection.	The study is market-focused and does not present evidence of institutional collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b161	Exclude	The study evaluates participant satisfaction in a therapeutic community program. It does not document government–university–industry interactions or innovation system collaboration.	Provides client feedback for program improvement and service delivery evaluation.	The study is confined to program-level assessment and does not present evidence of inter-sectoral collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b162	Exclude	The study analyzes the relationship between carbon emissions and rice production in the Philippines using econometric regression (1988–2017). It does not examine government–university–industry interactions or innovation system dynamics in agriculture.	Establishes a statistically significant relationship between carbon emissions and rice production, showing that environmental degradation reduces agricultural productivity. Uses secondary data and EViews-based regression analysis to assess long-term macroeconomic and environmental effects on the rice sector.	The study is limited to macro-level econometric analysis and does not document institutional collaboration or co-innovation among government, universities, and industry actors. Agricultural stakeholders and research institutions are not analyzed as interacting components of an innovation system. It does not address structural, functional, or relational dynamics of the

				Triple Helix and does not meet inclusion criteria.
SID-b163	Exclude	The study examines viticulture and climate monitoring in a non-Philippine context. It does not document government–university–industry interactions in the Philippines or innovation system engagement.	Provides analysis of crop phenology under climate change conditions.	The study is not Philippine-focused and does not provide evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria.
SID-b164	Exclude	The study addresses health leadership and climate change impacts. It does not document government–university–industry interactions or innovation system collaboration in the Philippines.	Examines leadership roles of health professionals in addressing climate-related health challenges.	The study is conceptual and does not present empirical evidence of collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b165	Exclude	The study assesses climate risks and agricultural adaptation in Agusan del Norte. It does not document government–university–industry interactions or coordinated innovation system processes.	Identifies flooding and drought risks, evaluates adaptive capacity in farms, and demonstrates that adjusted cropping strategies improve farm income. Recommends strengthened research, policy support, and climate-resilient agriculture financing.	The study references government, research institutions, and industry actors only as contextual elements and does not analyze them as interacting components. It does not present evidence of collaboration, co-innovation, or innovation system governance and does not meet inclusion criteria.
SID-b166	Exclude	The study examines LMS performance in an educational institution. It does not document government–university–industry interactions or innovation system engagement.	Analyzes LMS performance metrics and usage patterns within an institutional setting.	The study is institutionally bounded and does not present evidence of inter-sectoral collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b167	Exclude	The study examines small-scale fisheries affected by IUU fishing regulations. It does not document government–university–industry interactions in the Philippine innovation system.	Provides analysis of fisheries regulation impacts on small-scale fisheries in a global context.	The study is not Philippine-focused and does not provide evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria.
SID-b168	Exclude	The study focuses on curriculum design and educational practice. It does not document government–university–industry interactions or collaborative curriculum innovation systems.	Examines curriculum planning and outcomes-based education implementation.	The study does not provide evidence of inter-sectoral collaboration or innovation system engagement among government, universities, and industry. It does not meet inclusion criteria.

SID-b169	Exclude	The study examines ethical decision-making among graduate students. It does not document government–university–industry interactions or innovation system collaboration.	Analyzes ethical reasoning and decision-making processes at the student level.	The study is institutionally bounded and does not present evidence of inter-sectoral collaboration or innovation system dynamics. It does not meet inclusion criteria.
SID-b170	Exclude	The study analyzes drug policy and enforcement in the Philippines. It does not document government–university–industry interactions or innovation system engagement.	Provides analysis of governance and policy implementation in drug enforcement.	The study is policy-focused and does not present evidence of collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b171	Fully Include	The study examines commercialization of hatchery-bred milkfish fry in the Philippines and explicitly documents government involvement through DOST-PCAARRD (GAINEX project) in aquaculture innovation and industry development.	Uses an economic surplus model to estimate welfare distribution effects of reducing fry imports. Demonstrates higher national welfare from local hatchery commercialization and identifies production gains for grow-out operators and industry stakeholders.	The study documents explicit government–industry interaction through DOST-PCAARRD’s GAINEX project, which provides technical and financial support for hatchery development and commercialization. This constitutes direct government-enabled innovation system engagement within the aquaculture industry. The presence of institutional support mechanisms and industry application satisfies Triple Helix criteria and meets inclusion requirements for a qualitative meta-synthesis.
SID-b172	Exclude	The study focuses on literature education and environmental communication through classroom-based instructional design. It does not document government–university–industry interactions or innovation system collaboration in the Philippines.	Examines pedagogical design and approaches to environmental literacy instruction.	The study is institutionally bounded within the education sector and does not present evidence of collaboration or interaction among government, universities, and industry. It does not address innovation system dynamics and does not meet inclusion criteria.
SID-b173	Exclude	The study examines community involvement in tourism. It does not document government–university–industry interactions or innovation system collaboration.	Analyzes local tourism participation and community engagement in tourism activities.	The study does not provide empirical evidence of inter-sectoral collaboration among government, universities, and industry. It does not analyze innovation system dynamics and does not meet inclusion criteria.

SID-b174	Exclude	The study proposes a model for Indigenous community organizing. It does not document government–university–industry interactions or innovation system processes in the Philippines.	Presents a conceptual framework for community organizing among Indigenous populations.	The study is conceptual and does not present empirical evidence of collaboration among government, universities, and industry. It does not address innovation system dynamics and does not meet inclusion criteria.
SID-b175	Exclude	The study examines community engagement in tourism. It does not document government–university–industry interactions or innovation system collaboration in tourism development.	Analyzes community participation and perceptions in local tourism initiatives.	The study is limited to community-level analysis and does not provide evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria.
SID-b176	Exclude	The study focuses on botanical characterization and digital morphological analysis. It does not document government–university–industry interactions or innovation system processes.	Contributes to taxonomic classification and morphological documentation of plant species.	The study is basic scientific research and does not present evidence of institutional collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b177	Exclude	The study examines aquaculture performance in Bangladesh. It does not document Philippine government–university–industry interactions or innovation system engagement.	Analyzes tilapia growth performance and production efficiency in aquaculture systems.	The study is not Philippine-focused and does not provide evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria.
SID-b178	Exclude	The study examines resin collection practices by local producers. It does not document government–university–industry interactions or innovation system collaboration.	Describes variation in resin collection techniques and local production practices.	The study focuses on industry-level activity and does not present evidence of institutional collaboration among government, universities, and industry. It does not meet inclusion criteria.
SID-b179	Exclude	The study analyzes startup performance and macroeconomic indicators in the Philippines. It does not document government–university–industry interactions or innovation system collaboration.	Uses econometric modeling to examine relationships between startup activity, foreign direct investment, taxation, and currency exchange rates, and characterizes the Philippine startup ecosystem.	The study is limited to macroeconomic analysis and does not present evidence of institutional collaboration among government, universities, and industry. Universities are absent as actors, and industry is treated in aggregate form without relational innovation dynamics. It does not meet inclusion criteria.
SID-b180	Exclude	The study examines biological invasion of fall armyworm at a regional scale. It does not document Philippine government–	Analyzes invasion pathways and ecological impacts of an agricultural pest.	The study is not Philippine-focused and does not provide evidence of institutional collaboration among government,

		university–industry interactions or innovation system processes.		universities, and industry. It does not meet inclusion criteria.
SID-b181	Exclude	The study focuses on engineering and testing of concrete hollow blocks. It does not document government–university–industry interactions or innovation system collaboration in the Philippines.	Provides technical evaluation of material properties and structural performance of concrete blocks.	The study is technical and laboratory-based and does not present evidence of institutional collaboration or innovation system dynamics among government, universities, and industry. It does not meet inclusion criteria.
SID-b182	Exclude	The study examines students’ gaming habits and academic performance. It does not document government–university–industry interactions or education innovation system dynamics in the Philippine context.	The study provides empirical evidence on behavioral patterns and academic performance outcomes. The analysis remains at the individual level and does not engage innovation system structures or institutional collaboration.	The study does not document government–university–industry interactions, coordination mechanisms, or co-innovation processes. It does not analyze universities, government agencies, or industry actors as interconnected innovation system components. The focus is limited to behavioral outcomes and does not meet Triple Helix relational or structural criteria.
SID-b183	Exclude	The study examines service satisfaction among water district concessionaires. It does not analyze government–university–industry interactions in water service innovation systems.	The study provides evidence of client satisfaction and operational performance in public utility services. The analysis is limited to service evaluation without institutional collaboration.	The study does not present government–university–industry interactions or innovation system coordination. It focuses on end-user feedback without examining cross-sector collaboration, co-innovation, or institutional linkages.
SID-b184	Exclude	The study examines consumer behavior and economic confidence. It does not analyze government–university–industry interactions or innovation system dynamics in the Philippines.	The study provides empirical insights into consumer sentiment and macroeconomic perception indicators. The analysis remains behavioral and descriptive.	The study does not document government–university–industry interactions or systemic collaboration. Institutions are not analyzed as interacting actors in an innovation system. It does not meet Triple Helix criteria.
SID-b185	Exclude	The study examines Barangay Health Workers in the Philippine primary health care system. It does not analyze government–university–industry interactions or health innovation system collaboration.	The study identifies motivations, incentives, and barriers influencing BHW participation, including financial incentives, skill development, and service constraints. It provides detailed community health workforce analysis.	The study does not document government–university–industry interactions, coordination mechanisms, or co-innovation processes. Government appears only as the implementation context, while universities and industry actors are not engaged as interacting

				innovation system components. It does not meet Triple Helix criteria.
SID-b186	Exclude	The study focuses on language corpus development using technology. It does not document government–university–industry interactions in language technology innovation systems in the Philippines.	The study contributes to computational linguistics through corpus construction and digital language resource development. The analysis is technical and system-internal.	The study does not present government–university–industry interactions or institutional collaboration. It does not analyze innovation system participation or cross-sector engagement. It does not meet Triple Helix criteria.
SID-b187	Exclude	The study examines construction operations and OR tool application in a hypothetical setting. It does not analyze government–university–industry interactions in Philippine construction innovation systems.	The study provides methodological and operational modeling insights in construction management. The analysis is simulation-based and not system-relational.	The study does not document institutional collaboration or innovation system participation among government, universities, and industry actors. It does not meet Triple Helix criteria.
SID-b188	Exclude	The study examines global consumer attitudes toward egg production and animal welfare. It is not Philippine-focused and does not analyze government–university–industry interactions.	The study provides insights into consumer perceptions of animal welfare in food production systems at a global level.	The study does not document Philippine government–university–industry interactions or innovation system dynamics. It lacks both geographic and institutional alignment with Triple Helix criteria.
SID-b189	Exclude	The study examines consumer behavior and green marketing in food enterprises. It does not analyze government–university–industry interactions in the Philippine innovation system.	The study provides empirical evidence on consumer attitudes toward green marketing and sustainability practices in food enterprises.	The study does not document government–university–industry collaboration or innovation system processes. Institutions are not analyzed as interacting actors in a structured innovation framework.
SID-b190	Exclude	The study evaluates consumer acceptance of a university-developed canned chevon product. It does not analyze government–university–industry interactions in commercialization or innovation systems.	The study provides evidence on consumer acceptability of a food product, identifying sensory and economic determinants of market acceptance.	Although the product originates from a university (Isabela State University), the study does not document government–university–industry interactions or commercialization collaboration. It focuses on demand-side evaluation only and excludes innovation system or institutional collaboration analysis. It does not meet Triple Helix criteria.
SID-b191	Exclude	The study examines consumer behavior and marketing in local tourism. It does not analyze government–university–industry	The study provides empirical insights into consumer purchasing behavior and tourism marketing strategies.	The study does not document government–university–industry interactions, coordination mechanisms,

		interactions in Philippine tourism innovation systems.		or innovation system collaboration. It does not analyze institutional actors as interconnected components of a Triple Helix framework.
SID-b192	Exclude	The study focuses on the development of a contact tracing application. It does not document interactions among government health authorities, universities, and industry actors in the Philippines in the design, deployment, or scaling of the system.	Provides technical insights into digital contact tracing system development. It does not examine institutional coordination or innovation system dynamics.	The study does not provide evidence of government–university–industry interactions, coordination mechanisms, or co-innovation processes. Government, universities, and industry are not analyzed as interacting components within an innovation system. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b193	Exclude	The study analyzes MSME marketing effectiveness, IMC engagement, and angel investor decision-making in Metro Manila. It does not document government–university–industry interaction within an innovation system framework.	Identifies statistically significant relationships between IMC engagement, business performance factors, and angel investment decisions. It compares IMC-engaged and non-IMC MSMEs in terms of marketing attractiveness and operational performance and evaluates determinants of investor decision-making.	The study does not present government–university–industry collaboration or innovation system interaction. Government appears only as macro-environmental context, universities are absent as actors, and MSMEs and investors are treated as isolated market entities. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b194	Exclude	The study analyzes poverty and SDG indicators at the municipal level. It does not examine government–university–industry interactions in development or innovation processes in the Philippines.	Provides municipal-level analysis of poverty levels and SDG progress indicators.	The study does not document collaboration or interaction among government, universities, and industry actors. It does not address innovation system structure or relational dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b195	Exclude	The study examines historical publications and graphic art in colonial Manila. It does not relate to contemporary government–university–industry innovation system interactions.	Provides historical documentation of early printing and publication practices in colonial Manila.	The study does not involve government–university–industry interaction in a modern innovation system context. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b196	Exclude	The study focuses on taxonomy and biodiversity of water bugs in Mindoro. It does not document government–	Provides species classification and ecological documentation of water bugs in Mindoro.	The study does not analyze government–university–industry interactions or innovation system processes. It does not

		university–industry collaboration in conservation, innovation, or policy implementation.		meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b197	Exclude	The study examines MSME coping strategies in Laguna and awareness of government assistance programs. It does not document structured government–university–industry interaction.	Identifies MSME coping strategies including digital platform use, product adaptation, and reliance on government support programs. It highlights MSME demands for financial and regulatory assistance.	Government programs are treated as external support mechanisms, while universities and industry partners are not engaged as interacting actors. The study does not analyze co-innovation or system-level collaboration. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b198	Exclude	The study examines corporate leadership strategy using an algorithmic approach. It does not document government–university–industry interaction in the Philippines.	Provides an algorithmic framework for corporate leadership strategy and organizational decision-making.	The study does not provide evidence of government–university–industry collaboration or innovation system engagement. Without documented cross-sector interaction, it does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b199	Exclude	The study focuses on MBA students’ engagement with CSR practices. It does not analyze government–university–industry interactions in the Philippines.	Provides insights into student perceptions of corporate social responsibility practices.	The study does not examine collaboration or interaction among government, universities, and industry actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b200	Exclude	The study examines graduate employability in a public university. It does not document government–university–industry interaction in workforce development or innovation systems.	Identifies factors influencing graduate employability in a public university context.	The study does not provide evidence of structured interaction among government, universities, and industry actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b201	Exclude	The study analyzes marketing strategies and financial performance of travel agencies. It does not document government–university–industry interactions in tourism innovation or policy systems in the Philippines.	Examines the relationship between marketing strategies and financial performance in travel agencies.	The study does not provide evidence of government–university–industry collaboration or innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b202	Exclude	The study focuses on teacher mental health within a local cluster. It does not document government–university–	Provides insights into social deprivation and mental health outcomes among teachers in a localized context.	The study does not examine collaboration or interaction among government, universities, and industry actors. It does

		industry interactions related to education policy, innovation, or systemic interventions in the Philippines.		not address innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b203	Exclude	The study focuses on workforce inclusion for persons with disabilities. It does not document government–university–industry interactions in policy implementation or innovation systems in the Philippines.	Examines inclusion practices and barriers affecting employment participation of persons with disabilities.	The study does not present evidence of government–university–industry collaboration or systemic coordination. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b204	Exclude	The study focuses on student preferences in distance learning. It does not document government–university–industry interactions in education innovation or policy implementation in the Philippines.	Provides insights into learner preferences for distance teaching-learning modalities.	The study does not analyze collaboration or interaction among government, universities, and industry actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b205	Exclude	The study examines real estate market trends during the pandemic. It does not document government–university–industry interactions in housing policy or development systems in the Philippines.	Analyzes property market trends and assesses potential market instability during the pandemic period.	The study does not provide evidence of government–university–industry collaboration or innovation system engagement. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b206	Exclude	The study presents a conceptual analysis of ethics and vaccine distribution frameworks. It examines policy and normative issues related to global vaccine equity and allocation systems. No government–university–industry interaction structure is documented, and the analysis is not situated within a Philippine innovation system context.	The study provides an ethical and policy-oriented discussion of vaccine distribution challenges and global equity considerations. It synthesizes conceptual frameworks for evaluating fairness and access in public health resource allocation.	The study does not provide empirical evidence of government–university–industry interactions, institutional coordination, or co-innovation processes. It does not analyze relational, functional, or structural dynamics within an innovation system and is not grounded in Philippine Triple Helix configurations. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b207	Exclude	The study applies Standard and Negative Data Envelopment Analysis (DEA) to assess cooperative creditworthiness and failure risk in Region XI using financial data submitted to the Cooperative Development Authority. It focuses on quantitative financial performance analysis of cooperatives as individual	The study develops a predictive efficiency-based model to identify cooperatives at risk of financial failure using regression-based DEA methods. It analyzes financial sustainability and performance distribution across cooperatives using secondary financial statement data.	The Cooperative Development Authority functions solely as a regulatory data source, not as an innovation partner. Universities are not involved in research collaboration, methodological development, or applied innovation processes. Cooperatives are treated as analytical subjects rather than

		organizational units. No structured interaction among government, universities, and industry actors is examined.		participants in a collaborative innovation system. The study does not document government–university–industry interactions, coordination mechanisms, or co-innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b208	Exclude	The study examines teacher performance evaluation in a Philippine international school located abroad. It focuses on institutional performance assessment within an educational organization. No interaction among government, universities, and industry actors in the Philippine education system is documented.	The study provides insights into perceptions and evaluation of teacher performance within an international school context, focusing on institutional assessment practices and educational outcomes.	The study is not embedded in the Philippine innovation system and does not document government–university–industry interactions or collaboration. It does not analyze institutional coordination, policy-linked innovation processes, or cross-sector engagement. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b209	Conditionally Include	The study involves a government (Department of Agriculture and related agencies) and a university-based developer (CIT–University researcher) who designed a GIS-enabled mobile pest monitoring system. The interaction is mainly government–university, where government acts as end-user and data source. Industry is not identified, and farmers appear only as indirect beneficiaries.	Shows a government-led digital agriculture initiative supported by university ICT development, improving pest monitoring efficiency through mobile and GIS tools. It reflects partial Triple Helix integration, dominated by government needs and university technical input, with limited cross-sector linkage.	Conditionally included because it provides empirical evidence of government adoption of a university-developed technology in agriculture. However, it lacks industry participation and full tripartite interaction, making it a partial rather than complete Triple Helix case.
SID-b210	Exclude	The study examines graduate employability and employment outcomes in the Philippine education context. It focuses on individual and institutional employment indicators without analyzing systemic interaction among government, universities, and industry actors.	The study provides descriptive insights into graduate employability patterns and factors associated with employment outcomes in higher education contexts.	The study does not document government–university–industry interactions, coordinated workforce development mechanisms, or innovation-related collaboration. It does not analyze structural or relational dynamics within an innovation system framework. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b211	Exclude	The study examines stakeholder perceptions of a university vision and	Provides insights into stakeholder awareness and institutional perception of	The study does not present evidence of government–university–industry

		mission. It does not document government–university–industry interactions or innovation system processes in the Philippine context.	university direction, without addressing innovation system dynamics or cross-sector coordination.	collaboration, coordination mechanisms, or co-innovation processes. It does not analyze relational dynamics within a Triple Helix framework and therefore does not meet inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b212	Exclude	The study examines innovation practices in a private school outside the Philippines. It does not involve government–university–industry interactions within the Philippine innovation system.	Provides institutional-level insights on fostering innovation in an educational setting, without engagement in broader innovation system structures.	The study is not Philippine-based and does not document government–university–industry interaction or innovation system integration. It does not meet inclusion criteria for a Triple Helix meta-synthesis.
SID-b213	Exclude	The study investigates cultivation performance of <i>Lentinus tigrinus</i> strains in Luzon. It does not document interaction among government agencies, universities, and industry actors.	Contributes to agricultural biotechnology knowledge through experimental cultivation and strain performance analysis.	The study is limited to laboratory or institutional agricultural research. It does not provide evidence of government–university–industry collaboration, technology transfer, or innovation system engagement. It does not meet inclusion criteria for a Triple Helix meta-synthesis.
SID-b214	Exclude	The study documents ecological and cultural knowledge of Odonata among the T'boli community in Lake Sebu. It does not involve government–university–industry interaction or innovation system processes.	Provides ethnobiological documentation of indigenous ecological knowledge and biodiversity practices.	The study does not analyze institutional collaboration or innovation dynamics among government, universities, and industry actors. It lacks Triple Helix relational structures and is excluded.
SID-b215	Exclude	The study explores integration of Pintados motifs into furniture design using semiotics and QFD. It does not document structured government–university–industry interaction.	Contributes to culturally informed product design and design engineering methodologies.	The study does not present evidence of institutional collaboration, innovation governance, or cross-sector coordination among government, universities, and industry actors. It does not meet inclusion criteria.
SID-b216	Exclude	The study examines motivational factors in social entrepreneurship engagement. It does not analyze government–university–industry interaction or innovation system structures.	Identifies individual and organizational drivers of social entrepreneurship participation.	The study does not document institutional collaboration, policy coordination, or knowledge transfer among government, universities, and industry actors. It does not meet Triple Helix inclusion criteria.

SID-b217	Exclude	The study analyzes cultural diplomacy strategies of Thailand and Indonesia in the Philippines. It focuses on state-to-state cultural engagement without Triple Helix interaction.	Contributes to understanding cultural diplomacy and soft power strategies in international relations.	The study does not involve government–university–industry interaction or innovation system processes in the Philippine context. It is outside Triple Helix scope and excluded.
SID-b218	Exclude	The study examines predictors of CPA licensure exam performance using academic indicators. It involves universities and a government licensing body but excludes industry interaction.	Provides statistical analysis of academic performance and licensure outcomes for accounting education improvement.	The study does not include industry participation or innovation collaboration among government, universities, and industry actors. It does not represent a Triple Helix system and is excluded.
SID-b219	Exclude	The study analyzes customer satisfaction in a private beach hotel using online reviews. It does not involve government–university–industry interaction.	Provides insights into tourism service quality and customer perception in hospitality management.	The study is confined to private sector service evaluation and does not document institutional collaboration or innovation system dynamics. It does not meet Triple Helix inclusion criteria.
SID-b220	Exclude	The study examines customer service management in Tagum Water District, a government-owned utility. It does not involve universities or industry actors.	Provides analysis of public utility service management and internal operational practices.	The study lacks government–university–industry interaction and does not analyze innovation system coordination or co-production mechanisms. It does not meet inclusion criteria for a Triple Helix meta-synthesis.
SID-b221	Exclude	The study examines disaster damages, calamity frequency, and Philippine government disaster spending. It focuses exclusively on government fiscal policy without university or industry interaction.	Provides analysis of public expenditure patterns and disaster risk management financing in the Philippines.	The study does not document government–university–industry interactions, coordination mechanisms, or innovation processes. It is confined to government policy analysis and does not meet Triple Helix inclusion criteria.
SID-b222	Exclude	The study analyzes spatio-temporal modelling of rice value chains. It does not provide evidence of government–university–industry collaboration in the Philippine context.	Contributes to agricultural systems modelling and supply chain optimization for rice value chains.	The study does not document institutional collaboration or innovation system interaction among government, universities, and industry actors. It lacks Triple Helix relational evidence and is excluded.
SID-b223	Exclude	The study surveys Philippine local governments on disaster risk management strategies. It involves government actors only.	Provides insights into local government disaster preparedness and risk management practices.	The study does not include universities or industry actors and does not analyze inter-institutional coordination or innovation processes. It does not meet Triple Helix inclusion criteria.

SID-b224	Exclude	The study develops a method for marine protection prioritization in areas beyond national jurisdiction. It does not involve Philippine government, universities, or industry actors.	Contributes to marine conservation planning and spatial prioritization methodology.	The study is not embedded in the Philippine innovation system and does not document government–university–industry interaction. It is excluded from the Triple Helix meta-synthesis.
SID-b225	Exclude	The study analyzes the sociopolitical meaning of an artwork during COVID-19 in the Philippines. It does not involve institutional innovation actors.	Provides interpretation of cultural and sociopolitical narratives during the pandemic.	The study does not document government–university–industry interaction or innovation system processes. It does not meet Triple Helix inclusion criteria.
SID-b226	Exclude	The study addresses protection of women journalists in the Philippines. It involves societal and regulatory context but no structured Triple Helix interaction.	Provides insights into gendered risks and institutional protection gaps in journalism.	The study does not document collaboration or coordination among government, universities, and industry actors. It lacks innovation system relevance and is excluded.
SID-b227	Exclude	The study defines Industry 4.0 adoption stages using indicator frameworks. It does not involve Philippine government–university–industry interaction.	Provides conceptual and methodological framing for assessing Industry 4.0 adoption readiness.	The study lacks empirical evidence of cross-sector collaboration and does not analyze innovation system dynamics. It does not meet Triple Helix criteria.
SID-b228	Exclude	The study examines English language proficiency of pre-service teachers in a Philippine university. It involves only university actors.	Provides analysis of language acquisition and teacher education outcomes.	The study does not document government–university–industry interaction or innovation system engagement. It is excluded.
SID-b229	Exclude	The study analyzes pili farmers' demographics and production capacity in the Bicol Region. It does not document institutional collaboration.	Provides descriptive analysis of agricultural producer characteristics and production levels.	The study does not provide evidence of government–university–industry interaction or innovation system processes. It does not meet inclusion criteria.
SID-b230	Exclude	The study applies machine learning to analyze dengue dynamics using environmental factors. It does not involve Philippine institutional collaboration among government, universities, and industry.	Contributes to predictive modelling of dengue transmission using environmental and spatial variables.	The study does not document government–university–industry interaction, coordination, or innovation system engagement in the Philippines. It is excluded from the Triple Helix meta-synthesis.
SID-b231	Exclude	The study analyzes the Rohingya genocide denial and legal-political issues in Myanmar. It is outside the Philippine	Provides political and legal analysis of governance, human rights, and rule of law in a non-Philippine context.	The study does not document government–university–industry interactions or innovation system

		innovation system and does not involve institutional collaboration.		processes and is outside the Philippine Triple Helix context. It is excluded.
SID-b232	Exclude	The study develops a management information platform for school–enterprise cooperation. It does not document Philippine government–university–industry interaction.	Contributes to information system design for institutional coordination between educational institutions and enterprises.	The study does not provide empirical evidence of government–university–industry collaboration or innovation system engagement in the Philippines. It is excluded.
SID-b233	Exclude	The study examines tourism destination image and travel behavior in Batangas during COVID-19. It does not document structured institutional collaboration.	Provides analysis of tourism behavior and destination marketing under pandemic conditions.	The study does not demonstrate government–university–industry interaction or innovation system processes. It does not meet Triple Helix inclusion criteria.
SID-b234	Exclude	The study investigates microplastic contamination in cultured mussels in Bacoor Bay. It does not involve institutional collaboration.	Contributes to environmental monitoring and aquaculture sustainability research.	The study does not document government–university–industry interaction or innovation system engagement. It is therefore excluded.
SID-b235	Exclude	The study analyzes job satisfaction at a university in Pakistan. It is outside the Philippine context and does not involve industry or government interaction.	Provides insights into human resource management in higher education institutions.	The study is not Philippine-based and does not involve government–university–industry interaction. It does not meet inclusion criteria.
SID-b236	Exclude	The study examines macroeconomic determinants of Philippine GDP growth. It does not analyze institutional collaboration.	Provides long-term econometric analysis of economic growth drivers in the Philippines.	The study does not document government–university–industry interaction or innovation system processes. It is excluded.
SID-b237	Exclude	The study investigates employee motivation in a cooperative bank in the Philippines. It involves industry actors only.	Provides insights into organizational behavior and workforce motivation in cooperative banking.	The study does not involve government–university–industry interaction or innovation system engagement. It does not meet inclusion criteria.
SID-b238	Exclude	The study analyzes determinants of total factor productivity in Philippine manufacturing firms. It is limited to firm-level analysis.	Applies econometric models to assess productivity determinants across manufacturing firms using World Bank survey data.	The study does not document government–university–industry interaction, coordination mechanisms, or co-innovation processes. Government and universities are absent as interacting actors. It is excluded.
SID-b239	Exclude	The study examines remote work factors affecting design delivery during COVID-19. It involves organizational context only.	Provides insights into productivity and management challenges in remote work settings.	The study does not document government–university–industry

				interaction or innovation system processes. It is excluded.
SID-b240	Exclude	The study analyzes consumer decision-making for over-the-counter medicines in the Philippines. It involves market behavior only.	Applies AHP to evaluate consumer preferences in pharmaceutical purchasing decisions.	The study does not document government–university–industry interaction or innovation system engagement in pharmaceutical regulation or development. It does not meet inclusion criteria.
SID-b241	Exclude	The study analyzes COVID-19 effects on stock prices of publicly listed consumer goods companies in the Philippines. It focuses on financial market performance of industry actors without documented government, university, or industry collaboration.	The study quantifies stock price responses of consumer goods firms during the COVID-19 pandemic using financial market data.	The study is limited to capital market analysis of industry performance. Government actors appear only as macroeconomic context, universities are not involved in research or innovation processes, and industry firms are treated solely as financial units of analysis. It does not document government–university–industry interactions, coordination mechanisms, or co-innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b242	Exclude	The study examines determinants of energy consumption in the Philippines using macroeconomic variables, including GDP, FDI, trade openness, and carbon emissions. It does not document government–university–industry interaction.	The study estimates relationships between macroeconomic and environmental variables and energy consumption using econometric analysis.	The analysis is confined to macro-level econometric relationships. Government, universities, and industry actors are not engaged as interacting components in innovation or knowledge systems. The study does not document collaboration, technology transfer, or institutional coordination among Triple Helix actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b243	Exclude	The study develops a data model for indoor points of interest supporting location-based services. It is a technical information systems study with no documented Triple Helix interaction.	The study contributes a computational model for indoor spatial data representation to support location-based applications.	The study operates within technical system development and does not involve government agencies, universities, or industry actors in collaboration. It does not address innovation system dynamics or cross-sector coordination. It does not

				meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b244	Exclude	The study applies deep learning to simulate micro-pollutant behavior in a watershed system. It does not document government–university–industry interaction.	The study develops a predictive environmental model for water quality simulation using machine learning techniques.	The research is limited to computational environmental modeling. Government agencies, universities, and industry actors are not engaged in collaborative innovation, deployment, or knowledge transfer processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b245	Exclude	The study examines entrepreneurial competencies of farmers and fisherfolk engaged in community-based enterprise in the Philippines. It analyzes individual competency levels and demographic differences (gender, age, education, experience) using the Personal Entrepreneurial Competencies (PEC) framework. It does not document government–university–industry interactions, coordination, or institutional collaboration.	The study applies a descriptive survey of 306 respondents to assess entrepreneurial traits. It identifies moderate overall competency levels, with risk-taking and goal-setting as the weakest dimensions. It reports statistically differentiated competency profiles across demographic variables and proposes a framework for strengthening community-based enterprise engagement.	The analysis is restricted to individual-level entrepreneurial assessment among farmers and fisherfolk as standalone economic actors. It does not evidence participation of government agencies, universities, or industry institutions in training, extension, innovation support, or framework development. It does not document Triple Helix interactions, institutional coordination mechanisms, or co-innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b246	Exclude	The study develops mathematical algorithm–based weaving pattern designs for local textile production. It does not document government, university, and industry interaction or structured innovation system collaboration.	The study contributes a technical and computational approach to generating weaving patterns and advances design innovation in local textile production through algorithmic methods.	The work is limited to technical design development without empirical or documented engagement among government agencies, universities, and industry actors. It does not present evidence of institutional collaboration, knowledge transfer mechanisms, or commercialization pathways within an innovation system. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b247	Fully Include	The study implements an Internet-based geographic, environmental, and biodiversity information system in Nueva Ecija, Philippines. It involves the	The study applies SCRUM Agile methodology to design, develop, and evaluate an environmental information system for biodiversity monitoring and	The study demonstrates government–industry interaction through direct engagement of PENRO as an operational end user and evaluator of the system. ICT

		Provincial Environment and Natural Resources Office (PENRO) as a government agency and incorporates ICT technical expertise consistent with industry-based system development.	decision support. System performance is assessed in terms of usability, functionality, reliability, and security through end-user and expert evaluation.	development and system engineering functions reflect industry-linked technological production and implementation. The integration of government operational needs with ICT system development constitutes applied innovation within an innovation system context. The study meets the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b248	Exclude	The study evaluates higher education systems using TOPSIS-Entropy, Hopfield Neural Network, and Cobweb Model. It does not document interaction among government, universities, and industry actors.	The study contributes methodological approaches for higher education performance evaluation and system assessment using multi-criteria and computational models.	The study does not provide evidence of government–university–industry collaboration, coordination mechanisms, or innovation system engagement. It does not analyze institutional interaction or co-production of knowledge across sectors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b249	Exclude	The study develops an assessment framework for Television White Space (TVWS) communication system adoption using technological transition architecture. It does not document government–university–industry interaction.	The study constructs a structured evaluation framework for analyzing technology transition dynamics across niche, regime, and landscape levels in communication systems.	The study is conceptual and methodological and does not provide empirical evidence of collaboration among government regulators, universities, or telecommunications industry actors. It does not examine innovation system functioning, institutional coordination, or co-innovation processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b250	Exclude	The study develops a measurement tool for ecocentrism derived from environmental communication. It does not document interaction among government, universities, and industry actors.	The study contributes a methodological instrument for assessing ecocentric attitudes and outcomes of environmental communication strategies.	The study focuses on individual-level attitude measurement and does not provide evidence of institutional collaboration, policy engagement, or innovation system interaction among government, universities, and industry. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b251	Exclude	The study develops and evaluates a closed nipa sap collection system for bioethanol production in an agricultural production setting. It involves producers/farmers and a technological artifact without documented participation of government agencies, universities, or industry R&D institutions.	The study provides experimental comparison between a traditional bamboo shingle system and a closed collection system. It reports higher sap purity, increased sugar brix, altered pH dynamics, reduced ethanol yield in the experimental setup, and cost reduction. The contribution is technical and process-oriented, focused on bioethanol feedstock collection efficiency and product quality.	The study does not document government–university–industry interactions, institutional coordination, or co-innovation processes. Government agencies are absent from regulation, extension, or deployment functions. Universities and research institutions are not involved in design, validation, or knowledge transfer. Industry actors are not engaged in structured innovation governance or commercialization pathways. The study constitutes isolated applied technical development without innovation system integration and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b252	Exclude	The study develops a smartphone-controlled hand and arm exoskeleton for rehabilitation and assistive use. It involves researchers/developers and end-users without documented participation of government, universities as external partners, or industry actors.	The study presents a functional assistive robotics prototype integrating mechanical design, embedded systems (Arduino), mobile application control, and 3D printing. It reports iterative prototyping, stress analysis, system integration, and performance testing demonstrating lifting capability and operational responsiveness. The contribution is technical and prototype-driven.	The study does not document government–university–industry collaboration or innovation system engagement. Government health or rehabilitation agencies are not involved in funding, validation, or deployment. Industry actors in medical devices or assistive technologies are not involved in development or commercialization. Universities function only as the research site without external institutional collaboration. The study is confined to prototype development and user testing and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b253	Exclude	The study develops the APCO framework for osteoporosis care in the Asia-Pacific region. It does not document Philippine government–university–industry interaction or innovation system participation.	The study establishes clinical guidelines and standardization for osteoporosis care and contributes to regional healthcare best practices and clinical coordination frameworks.	The study is regionally oriented and does not provide evidence of Philippine government–university–industry collaboration. It does not engage national health agencies, academic institutions, or industry stakeholders within an

				innovation system framework. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b254	Exclude	The study evaluates computer-aided detection systems for pulmonary tuberculosis across international sites. It does not document Philippine government–university–industry interaction.	The study assesses diagnostic performance of AI-based tuberculosis detection systems and contributes evidence on medical imaging accuracy and screening effectiveness.	The study is international in scope and does not include Philippine government agencies, universities, or industry actors in development, validation, or deployment. It does not analyze innovation system coordination or cross-sector collaboration within the Philippine context. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b255	Exclude	The study examines gender differences in perceptions of STEAM education among higher education students and teachers. It does not document government or industry participation in curriculum development or innovation processes.	The study analyzes gender-based differences in perceptions of STEAM education within higher education institutions and contributes to understanding educational dynamics and instructional perspectives.	The study does not document government–university–industry interaction or innovation system engagement. It is limited to intra-academic perspectives and does not involve external institutional collaboration or co-production of knowledge across sectors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b256	Exclude	The study examines online agricultural product sales from farmers’ perspectives. It involves industry actors (farmers and digital marketplaces) without documented participation of government or universities.	The study analyzes farmer adoption of e-commerce platforms and identifies challenges in digital agricultural market participation. It contributes empirical evidence on agricultural digital trade behavior.	The study does not document government–university–industry interactions or institutional coordination. Government agencies are absent from policy, training, or regulatory engagement, and universities are not involved in research or extension activities. The study does not address innovation system integration and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b257	Exclude	The study examines digital education and future skills development for public servants. It involves government employees without documented	The study analyzes workforce digital competency development in public administration and contributes to	The study does not document government–university–industry collaboration. Universities are not involved in training design or delivery, and

		participation of universities or industry actors.	understanding capacity-building in government digital transformation.	industry actors are not engaged in technology or program development. The study does not analyze innovation system processes and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b258	Exclude	The study examines the impact of digital finance on Philippine bank stability. It involves financial institutions without documented government–university–industry interaction.	The study analyzes the relationship between digital finance adoption and banking sector stability and contributes empirical evidence on financial system dynamics.	The study does not document structured collaboration among government regulators, universities, and industry actors. It does not analyze innovation system coordination or knowledge transfer mechanisms. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b259	Exclude	The study examines digital labor solidarities and relational infrastructures. It does not document government–university–industry interaction in the Philippine context.	The study analyzes labor organization and digital platform-based collective formations and contributes to understanding socio-digital labor dynamics.	The study does not provide evidence of government–university–industry engagement or innovation system relevance. It does not examine institutional collaboration, policy interaction, or technology transfer processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b260	Exclude	The study develops a web-based Contact Tracer Information Management System for the DILG in Negros Occidental. It involves a single government agency without university or industry participation.	The study implements an e-governance system that automates contact tracing workflows, improves data accuracy, enhances reporting efficiency, and reduces manual administrative processes within the DILG.	The study does not document government–university–industry collaboration or co-innovation processes. It is an internal government digitalization initiative without university involvement in design or evaluation and without industry participation in development or deployment. It does not constitute a multi-actor innovation system and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b261	Exclude	The study develops an alternative scale to assess financial well-being among microfinance borrowers in Digos City. It involves microfinance clients as industry	The study constructs and applies a measurement scale for financial well-being and evaluates microfinance outcomes among borrowers. It	The study does not document government–university–industry collaboration, institutional coordination, or innovation system processes.

		actors but does not document government–university–industry interaction in program design, implementation, or evaluation.	contributes to the assessment of financial inclusion impacts within microfinance contexts.	Government agencies, universities, and industry actors are not engaged in co-development, policy integration, or knowledge transfer activities. The analysis is limited to microfinance client-level measurement and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b262	Exclude	The study analyzes the relationship between disaggregated energy consumption and industrial output in the Philippines. It does not document government–university–industry interaction.	The study examines macroeconomic relationships between energy use and industrial productivity and contributes empirical evidence on energy–output dynamics in the Philippine economy.	The study does not document collaboration among government agencies, universities, and industry actors. It does not address innovation system processes, technology development, or cross-sector coordination. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b263	Exclude	The study examines disaster preparedness among local governments in Panay Island. It involves government actors only and does not document engagement with universities or industry.	The study assesses local government disaster preparedness capacity and contributes empirical findings on planning and resilience practices.	The study does not document government–university–industry interaction or innovation system participation. It is limited to public sector preparedness assessment and does not include multi-actor collaboration. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b264	Exclude	The study analyzes interoperability and terminology standards in the Philippine National eHealth Strategy using secondary policy and grey literature. It does not document empirical government–university–industry interaction.	The study maps the Philippine eHealth system architecture and identifies interoperability gaps, governance constraints, and implementation barriers in digital health systems, including challenges in standards harmonization and data integration.	The study does not document government–university–industry collaboration or co-innovation processes. Government agencies are treated as structural policy components, universities are not engaged as actors in system development, and industry stakeholders are not involved in documented collaboration. The analysis is based on secondary synthesis and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b265	Exclude	The study explores graduate students' lived experiences in virtual learning environments. It involves university students only and does not document government or industry participation.	The study examines student experiences in virtual learning contexts and contributes qualitative insights into online education practices in higher education.	The study does not document government–university–industry interaction, institutional collaboration, or innovation system engagement. It is confined to intra-university educational experiences and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b266	Exclude	The study examines disinformation trends in Southeast Asia, including the Philippines. It does not document government–university–industry interaction or innovation processes.	The study provides comparative analysis of disinformation dynamics and media environments across Southeast Asian countries and contributes to understanding information ecosystem behavior.	The study does not document collaboration among government agencies, universities, and industry actors. It does not address innovation system structures or co-production of knowledge across sectors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b267	Exclude	The study investigates fish species distribution and water quality in the Bengawan Solo River, Indonesia. It is outside the Philippines and does not involve government–university–industry interaction.	The study analyzes ecological and environmental conditions affecting aquatic biodiversity and contributes empirical findings on riverine ecosystem dynamics.	The study is geographically outside the Philippines and does not document government–university–industry collaboration or innovation system relevance. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b268	Exclude	The study examines workplace diversity and employee challenges in resorts in Calamba City. It involves industry actors (resorts) and employees without government or university engagement.	The study analyzes human resource management challenges and workplace diversity issues in the hospitality sector and contributes empirical insights into organizational labor dynamics.	The study does not document government–university–industry interaction or innovation system participation. Government labor institutions and universities are not involved in research, training, or collaboration processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b269	Exclude	The study evaluates commercially available probiotic products for children in the Philippines and Korea. It involves industry products without documented government–university–industry collaboration in the Philippines.	The study assesses probiotic product characteristics and contributes to consumer safety and product quality evaluation in pediatric nutrition contexts.	The study does not document government–university–industry collaboration, regulatory coordination, or innovation system engagement. It is limited to product evaluation and does

				not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b270	Exclude	The study investigates Generation Z students' disengagement from sports and recreation. It involves student populations only and does not document government, university–industry collaboration, or innovation processes.	The study analyzes motivational and behavioral factors influencing sports participation and contributes empirical insights into youth recreation patterns.	The study does not document government–university–industry interaction or innovation system engagement. It is limited to behavioral analysis without institutional collaboration or cross-sector coordination. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b271	Exclude	The study analyzes drug supply shortages in Nigeria during COVID-19. It does not involve the Philippines and does not document Philippine government–university–industry interaction.	The study examines health system resilience and pharmaceutical supply chain constraints in Nigeria and identifies operational and regulatory challenges during the pandemic.	The study is geographically outside the Philippines and does not document Philippine government–university–industry collaboration, innovation system engagement, or institutional coordination. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b272	Exclude	The study examines drug supply shortages in Nigeria during COVID-19. It does not involve the Philippines and does not document Philippine government–university–industry interaction.	The study analyzes pharmaceutical supply chain disruptions and institutional responses in Nigeria during the pandemic.	The study does not document Philippine government–university–industry collaboration or innovation system processes. It is geographically outside the Philippine context and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b273	Exclude	The study examines the relationship among energy consumption, CO ₂ emissions, population growth, and GDP in the Philippines using econometric analysis. It does not involve government, university, or industry actors as interacting components within an innovation system.	The study applies ordinary least squares regression to national time-series data (1980–2019). It finds that energy consumption and population growth are statistically significant determinants of GDP, while CO ₂ emissions are not significant. It identifies positive associations between energy use and economic output, evaluates classical linear regression assumptions, detects autocorrelation, and recommends renewable energy transition for sustainable growth.	The study does not document government–university–industry collaboration, co-innovation processes, or institutional coordination. Government appears only as macroeconomic context, universities are not engaged as collaborative actors beyond data analysis, and industry is not represented in structured interaction. The analysis is purely econometric and does not examine innovation system dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b274	Exclude	The study analyzes the economic performance of JBT Agri Farm and proposes an action plan. It involves a single agricultural enterprise without documented government or university collaboration.	The study evaluates farm-level economic indicators and operational performance and proposes strategic improvements for business sustainability.	The study does not document government–university–industry interaction, institutional coordination, or innovation system engagement. It is confined to firm-level economic analysis and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b275	Exclude	The study investigates fisherfolks' decisions to practice accounting using probit models. It involves industry actors without documented government or university engagement.	The study analyzes determinants of accounting adoption among fisherfolks and contributes behavioral economic insights into financial management practices in fisheries.	The study does not document government–university–industry collaboration, institutional coordination, or innovation system participation. It focuses on individual decision-making and does not examine cross-sector interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b276	Exclude	The study examines the trade-off between economic growth and environmental degradation in the Philippines. It does not document government–university–industry interaction.	The study analyzes environmental and economic indicators to assess growth–environment trade-offs and contributes empirical evidence to policy discourse on sustainable development.	The study does not document collaboration among government agencies, universities, and industry actors. It does not analyze innovation system processes, technology development, or institutional coordination. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b277	Exclude	The study applies multi-criteria decision-making and GIS techniques to select economic zone sites in Butuan City. It does not document structured government–university–industry collaboration.	The study contributes spatial decision-support methodology for economic zone planning and integrates GIS-based analysis into urban development assessment.	The study does not provide empirical evidence of government–university–industry interaction, institutional coordination, or co-innovation processes. It is a methodological planning analysis without innovation system engagement. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b278	Exclude	The study assesses risks in the education sector during the pandemic. It does not document collaboration among	The study evaluates sectoral risk exposure and preparedness in education and contributes to understanding institutional vulnerability during crisis conditions.	The study does not document government–university–industry interaction, innovation system engagement, or co-development

		government, universities, and industry actors.		processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b279	Exclude	The study examines a state university's readiness for educational tourism. It involves a university and potential industry linkage without documented government collaboration.	The study evaluates institutional capacity and strategic positioning for educational tourism development and identifies operational readiness factors.	The study does not document government–university–industry collaboration, formal partnership structures, or innovation system coordination. It does not provide evidence of cross-sector co-innovation or policy integration. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b280	Exclude	The study examines “Edu-Connect” and imagined regional networks in Southern Taiwan. It does not focus on Philippine innovation systems or document Philippine government–university–industry interaction.	The study analyzes cross-border educational narratives and regional identity formation and contributes conceptual insights into transnational educational networks.	The study does not document Philippine government–university–industry collaboration, institutional coordination, or innovation system processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b281	Exclude	The study examines the socio-economic effects of the COVID-19 pandemic on fishers in a coastal municipality. It involves industry actors and local context but does not document government–university–industry interaction.	The study analyzes income disruption, livelihood vulnerability, and coping strategies among coastal fishers during the pandemic. It contributes empirical evidence on sectoral socio-economic impacts.	The study does not document structured collaboration among government agencies, universities, and industry actors. It does not examine innovation system processes, institutional coordination, or co-innovation mechanisms. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b282	Exclude	The study analyzes the effect of entrepreneurial orientation on entrepreneurial competencies and micro-enterprise performance in Lipa City. It involves micro-enterprise owners as industry actors without documented government or university participation.	Using multiple regression analysis, the study establishes that creativity and innovativeness, risk-taking propensity, proactiveness, and autonomy significantly predict entrepreneurial competencies and enterprise performance. It identifies partial mediation effects of competencies and recommends development of a mobile application for capacity building. The contribution is behavioral and	The study does not document government–university–industry collaboration, institutional coordination, or co-innovation processes. Government entities are not involved in policy support or program implementation related to the proposed application. Universities are not engaged as research or technology development partners beyond the study setting. Industry actors are respondents rather than collaborators in an innovation

			organizational, focused on determinants of enterprise performance.	system. The recommended mobile application is conceptual and lacks documented multi-actor design or governance. The study does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b283	Exclude	The study evaluates the effectiveness of an online programming course at a state university. It involves a university without documented government or industry collaboration.	The study assesses online learning outcomes and pedagogical effectiveness in programming education and contributes evidence on instructional performance in virtual environments.	The study does not document government–university–industry interaction, institutional collaboration, or innovation system engagement. It is confined to internal academic evaluation and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b284	Exclude	The study evaluates the effectiveness of an online programming course at a state university. It does not document collaboration with government agencies or industry actors.	The study analyzes instructional effectiveness and student performance in an online programming environment.	The study does not provide evidence of government–university–industry collaboration, co-development processes, or innovation system interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b285	Exclude	The study examines the effectiveness of the Kumospace application in an online physics class. It involves educational technology use without documented government–university–industry collaboration.	The study evaluates student academic performance and engagement using a virtual learning platform and contributes empirical findings on digital pedagogy effectiveness.	The study does not document structured interaction among government agencies, universities, and industry actors in technology development, deployment, or commercialization. It does not examine innovation system dynamics and does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b286	Exclude	The study evaluates implementation of a curfew policy in Dilasag, Aurora. It involves local government enforcement without university or industry collaboration.	The study analyzes policy implementation effectiveness and community compliance with local curfew regulations.	The study does not document government–university–industry interaction or co-innovation processes. It is limited to public policy enforcement analysis and does not engage multiple innovation system actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b287	Exclude	The study investigates the effects of computer-based interactive materials on English learning. It does not document government–university–industry collaboration in material development or deployment.	The study evaluates pedagogical effectiveness of digital instructional materials and contributes to understanding language learning outcomes using technology.	The study does not document cross-sector collaboration, institutional coordination, or innovation system engagement among government, universities, and industry actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b288	Exclude	The study analyzes containment and closure policies on COVID-19 transmission in East Asia. It does not focus on the Philippines or document government–university–industry interaction.	The study evaluates epidemiological outcomes associated with public health policies and contributes comparative evidence on pandemic control effectiveness.	The study is not Philippines-focused and does not document government–university–industry collaboration related to innovation system processes. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b289	Exclude	The study examines the relationship between corporate social responsibility initiatives and SME financial performance. It involves industry actors without documented government or university collaboration.	The study analyzes firm-level CSR engagement and financial performance outcomes and contributes to understanding strategic management practices among SMEs.	The study does not document government–university–industry interaction, policy co-creation, or knowledge transfer processes. It does not examine innovation system coordination or co-innovation. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b290	Exclude	The study examines the effects of environmental regulations on members of a Tricycle Operators and Drivers Association in Cabanatuan City. It involves government regulation and industry actors without university participation.	The study analyzes regulatory compliance behavior and economic impacts of environmental policies on small transport operators.	The study documents government–industry interaction only and does not include universities as participating actors. It does not demonstrate government–university–industry collaboration, institutional coordination, or co-innovation processes within an innovation system framework. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b291	Exclude	The study evaluates the impact of rice combine harvester adoption on post-harvest losses and production costs using field experiments and farmer surveys. It involves farmers as technology users without documented interaction among	The study demonstrates that mechanized harvesting reduces harvesting and threshing losses by approximately 1.02 percentage points and generates cost savings of PhP 3,908.60 per hectare, resulting in net benefits of PhP 4,627.00 per hectare per cropping season. It	The study does not document government–university–industry collaboration, institutional coordination, or co-innovation processes. Government mechanization programs are not analyzed as active institutional partners. Universities and research institutions are

		government, universities, and industry actors.	establishes agronomic and economic gains from mechanization at the farm level and contributes evidence on production efficiency and competitiveness.	not engaged as collaborative developers, evaluators, or technology transfer agents. Industry actors such as machinery manufacturers are not part of a documented innovation network. The analysis is confined to farm-level impact evaluation and does not examine an innovation system structured around Triple Helix interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b292	Exclude	The study evaluates the efficacy of EMDR therapy for Filipino clients with substance use disorder within a clinical treatment context. It does not document interaction among government, universities, and industry actors.	The study contributes evidence on therapeutic effectiveness in clinical psychology and mental health intervention outcomes.	The study does not analyze government–university–industry collaboration, innovation system structures, or institutional coordination. It does not document co-production of knowledge, policy, or technology among Triple Helix actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b293	Exclude	The study examines egg market integration and financial feasibility of laying hen farmers in Central Java. It is not Philippines-focused and does not document government–university–industry interaction.	The study analyzes agricultural market efficiency and farm-level financial viability, contributing to understanding price integration and profitability in poultry production.	The study does not examine collaboration among government, universities, and industry actors within an innovation system framework. It is geographically outside the Philippine context and does not document Triple Helix interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b294	Exclude	The study presents a household-level case of an elderly parent caring for an adult with Down syndrome. It does not involve government–university–industry interaction.	The study contributes qualitative insight into caregiving dynamics and social and health challenges within a family context.	The study does not document collaboration, institutional coordination, or innovation processes among government, universities, and industry actors. It does not engage the Philippine innovation system or Triple Helix structures. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.

SID-b295	Exclude	The study discusses adaptation of an Electronic Document Management System in Philippine healthcare. It references healthcare institutions but does not document structured government–university–industry interaction.	The study provides a conceptual discussion of electronic health records and digital transformation in healthcare, identifies sustainability and adoption challenges, and frames EDMS as a tool for improving documentation and organizational performance. The contribution is exploratory and conceptual.	The study does not document collaborative development, implementation, or governance involving government, universities, and industry actors. Government healthcare institutions are described contextually rather than as partners in co-innovation. Universities are not engaged as research collaborators or technical contributors. Industry actors such as health IT vendors are not analyzed within a collaborative framework. The analysis does not examine an innovation system structured around Triple Helix interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b296	Exclude	The study explores emergency remote teaching in early childhood education. It involves educational institutions without documented collaboration with government or industry actors.	The study analyzes pedagogical approaches and operational challenges in remote early childhood education settings.	The study does not document government–university–industry collaboration, institutional coordination, or co-innovation processes within the Philippine innovation system. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b297	Exclude	The study investigates employability and satisfaction of Mathematics Education graduates from a science and technology university in Southern Philippines. It involves a university and graduates entering the labor market without documented government participation in innovation-related coordination.	The study evaluates graduate outcomes and higher education performance indicators related to employment and satisfaction.	The study does not document structured interaction among government, universities, and industry actors in innovation, policy coordination, or knowledge transfer processes. It does not examine the Philippine innovation system through a Triple Helix lens. It does not meet the inclusion criteria for a qualitative meta-synthesis.
SID-b298	Exclude	The study examines employability of graduates from the NEUST San Leonardo Off-Campus Program. It involves a university and labor market outcomes without documented government–university–industry collaboration.	The study provides empirical evidence on graduate employability and educational performance outcomes.	The study does not document institutional coordination, collaborative innovation processes, or structured interaction among government, universities, and industry actors within the Philippine innovation system. It does not meet the

				inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b299	Exclude	The study focuses on monitoring employee presence using body temperature detection and face recognition technologies in workplace settings. It involves industry application of technology without documented government–university–industry collaboration.	The study analyzes technological integration in workforce management systems and contributes to understanding digital monitoring applications in organizational contexts.	The study does not document collaboration among government regulators, universities, and industry actors in technology development, evaluation, or governance. It does not analyze innovation system coordination or co-innovation structures. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b300	Exclude	The study examines the impact of internal audit systems on business sustainability in the manufacturing industry. It involves industry actors without documented collaboration with government agencies or universities.	The study evaluates the relationship between internal audit practices and corporate sustainability performance, contributing to business management and governance literature.	The study does not document government–university–industry interaction, institutional coordination, or collaborative innovation processes within the Philippine innovation system. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b301	Exclude	The study examines employment profiles and the alignment of academic programs with language curriculum quality. It involves universities and graduates entering the labor market but does not document government participation in curriculum governance, policy coordination, or innovation collaboration.	The study contributes to curriculum evaluation and higher education quality assurance by assessing program relevance and graduate employment outcomes.	The study does not document structured interaction among government, universities, and industry actors. It does not analyze institutional coordination, collaborative governance, or innovation system linkages. The absence of documented government–university–industry collaboration disqualifies it from inclusion in a Triple Helix qualitative meta-synthesis.
SID-b302	Exclude	The study examines employment outcomes of criminology graduates. It involves university graduates and labor market entry without documented government engagement in coordinated innovation or policy collaboration.	The study provides empirical evidence on graduate employment trends and higher education outcomes.	The study does not document government–university–industry interaction, collaborative innovation processes, or institutional coordination within the Philippine innovation system. It fails to meet the Triple Helix inclusion criteria.
SID-b303	Exclude	The study investigates employment outcomes and competencies of Bachelor of Secondary Education graduates. It	The study contributes to understanding workforce readiness and higher education performance indicators.	The study does not analyze structural, functional, or relational dynamics among government, universities, and industry

		involves universities and labor market entry without documented government–industry–university collaboration.		actors. It does not document collaborative governance, innovation processes, or coordinated institutional linkages. It does not satisfy the criteria for inclusion in a Triple Helix qualitative meta-synthesis.
SID-b304	Exclude	The study analyzes the energy–growth–environment nexus in the Asia Pacific region. It does not document empirical collaboration among Philippine government, universities, and industry actors, nor does it examine innovation system processes.	The study contributes macro-level analysis of regional energy, economic, and environmental interdependencies.	The study does not provide evidence of government–university–industry interaction within the Philippine innovation system. It does not analyze institutional coordination or co-innovation mechanisms. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b305	Exclude	The study examines empowerment outcomes among women volunteers in a community organization. It does not document interaction among government, university, and industry actors within an innovation framework.	The study analyzes familial, socio-cultural, psychological, and political dimensions of empowerment arising from participation in community programs.	The study does not document government–university–industry collaboration, innovation system linkages, or cross-sector co-production mechanisms. It focuses on individual and community-level outcomes rather than institutional interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b306	Exclude	The study does not use a Triple Helix framework or structure explicit government–university–industry relations. Although it includes government agencies, research institutes, industry groups, and other actors, it analyzes them as innovation intermediaries in a rice value-chain context rather than co-evolving Triple Helix spheres. Interactions are described functionally (e.g., brokerage, consultancy, resource provision) rather than as formal triple helix linkages.	The study empirically examines innovation intermediaries in the Philippine rice industry, highlighting their roles, capabilities, and value-chain participation. It shows how they enable knowledge transfer, resource distribution, and network coordination, with capability development varying by organization type.	Exclude because it lacks an explicit Triple Helix framework and does not systematically map government–university–industry interactions. Actor representation is also partly anonymized or aggregated, limiting clear identification of institutions and their linkages. This prevents inclusion under strict THIM criteria.
SID-b307	Exclude	The study assesses user satisfaction with a government digital trade facilitation	The study evaluates system usability dimensions and identifies user	The study does not document structured collaboration among government,

		system. It involves a government platform and industry end users but does not document university participation or collaborative innovation governance.	satisfaction determinants for improving digital service performance.	universities, and industry actors in the design, development, or governance of the system. Industry actors are surveyed as users rather than collaborative innovation partners. The absence of documented Triple Helix interaction excludes it from the meta-synthesis.
SID-b308	Exclude	The paper presents a conceptual sustainability framework related to vaccination campaigns. It does not document empirical interaction among government, university, and industry actors in innovation processes.	The paper proposes a framework addressing energy, environmental, economic, and equity dimensions of vaccination programs and outlines general sustainability strategies.	The paper is conceptual and does not provide empirical evidence of government–university–industry collaboration or innovation system linkages within a national context. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b309	Exclude	The study analyzes language use in church signage as a sociolinguistic phenomenon. It does not involve government–university–industry interaction or innovation system processes.	The study contributes to understanding linguistic landscape patterns within a religious setting.	The study does not document collaboration, institutional coordination, or innovation-related interaction among government, universities, and industry actors. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b310	Exclude	The study discusses English language proficiency in relation to education, employment, and competitiveness. It does not empirically analyze collaboration among government, universities, and industry actors.	The article provides contextual analysis of English proficiency challenges and their implications for education and labor markets.	The study does not document government–university–industry interaction, collaborative innovation processes, or structured institutional linkages within the Philippine innovation system. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b311	Exclude	The study examines English language proficiency outcomes of senior high school students. It does not analyze or document interactions among government, universities, and industry actors within innovation processes.	The study provides descriptive evidence on student proficiency levels and contributes to educational assessment and curriculum evaluation discussions.	The study does not document government–university–industry collaboration, institutional coordination, or innovation system linkages. It focuses exclusively on learner outcomes and does not examine structural, functional, or relational dynamics among Triple Helix actors. It does not meet the inclusion

				criteria for a Triple Helix qualitative meta-synthesis.
SID-b312	Exclude	The study profiles women's entrepreneurial activities in local tourism. It does not document structured interaction among government, universities, and industry actors as defined in Triple Helix frameworks.	The study analyzes socio-economic and cultural dimensions of women's micro-enterprises in tourism, including employment generation, competition constraints, and social capital formation.	The study does not provide evidence of government–university–industry collaboration, policy co-design, shared governance, or cross-sector innovation processes. Academic institutions are not engaged as partners, and structured public–private coordination is not analyzed. The absence of documented multi-actor collaboration within an innovation system excludes it from the Triple Helix meta-synthesis.
SID-b313	Exclude	The study investigates collective practices among Filipino digital platform workers. It does not analyze or document interaction among government, universities, and industry actors in innovation or governance processes.	The study contributes to understanding “entrepreneurial solidarities” among digital workers, highlighting peer-to-peer sense-making, coping strategies, and narratives of precarity within platform labor markets.	The study does not document institutional collaboration, cross-sector governance, or innovation system linkages among government, universities, and industry actors. It centers on peer networks rather than structured Triple Helix interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b314	Exclude	The review examines shrimp aquaculture impacts and policy recommendations in the Philippines. It does not present empirical analysis of structured interaction among government, universities, and industry actors in innovation processes.	The article synthesizes environmental, disease, and socioeconomic pressures in shrimp aquaculture and identifies policy and sustainability gaps based on reviewed literature.	The review does not provide original empirical evidence of government–university–industry collaboration, co-production, or coordinated innovation mechanisms. References to inter-sector engagement are not analyzed as documented interaction structures. The absence of demonstrated relational and functional dynamics among Triple Helix actors excludes it from the meta-synthesis.
SID-b315	Exclude	The study examines environmental pollution and emissions compliance in Philippine workplaces. It does not document structured collaboration among government, universities, and	The study analyzes patterns of unsafe vehicle emissions and regulatory compliance, highlighting deficiencies in monitoring and enforcement related to workplace health and safety.	The study does not analyze government–university–industry interaction, collaborative governance, or innovation system coordination. It addresses regulatory performance without examining institutional co-production or

		industry actors within innovation processes.		cross-sector innovation dynamics. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b316	Exclude	The article reviews public health law frameworks affecting access to essential medicines, including in the Philippines. It does not document empirical interaction among government, universities, and industry actors in innovation or co-governance processes.	The study provides a comparative legal analysis of universal health coverage laws and their embedded objectives, and reviews empirical evidence on access outcomes.	The article does not analyze institutional collaboration, co-creation of knowledge, or structured innovation linkages among government, universities, and industry actors. It is a comparative legal review rather than an empirical study of innovation system interaction. It does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b317	Exclude	The study explores the establishment of a local museum with involvement of a Local Government Unit. It does not document structured interaction among government, universities, and industry actors in innovation processes.	The study provides descriptive insights into museum establishment processes, cultural preservation practices, committee participation, and ordinance enactment.	The study does not document government–university–industry collaboration, co-governance arrangements, or innovation system linkages. University and industry actors are not engaged in coordinated innovation activities. The absence of documented Triple Helix interaction excludes it from the qualitative meta-synthesis.
SID-b318	Conditionally include	The study includes university actors such as BPSU, SLU, and Miriam College, government actors such as DOST, DTI, CHED, and DOST-PCIEERD, and limited industry actors such as SM Group and MSMEs. These actors are described in terms of funding, institutional support, and facility development, but their interactions are primarily structural and descriptive rather than empirically analyzed as dynamic Triple Helix relationships.	The study contributes to identifying structural gaps in Philippine innovation infrastructure, clarifying functional roles of universities, government agencies, and industry partners, and highlighting contextual constraints such as funding limitations, operational challenges, and restricted access to facilities. It also provides benchmarking insights by comparing local makerspaces with international models.	The study should be conditionally included because it provides relevant Philippine innovation system context and identifies key Triple Helix actors involved in makerspace development. However, it does not provide clear empirical evidence of interaction dynamics among government, university, and industry actors, focusing instead on benchmarking and infrastructure design rather than relational analysis.
SID-b319	Exclude	The study applies Sentinel-2 geospatial technology in a Philippine context within an academic research setting. It does not document interactions among government, university, and industry	The article provides methodological application of remote sensing data for biomass estimation and produces localized environmental assessment results. It contributes technical and	The study does not document government–university–industry interactions and does not analyze innovation system dynamics, sectoral coordination, or co-creation

		actors. No evidence exists of collaboration with government agencies or private sector entities in technology development, co-design, knowledge transfer, commercialization, or innovation governance.	environmental analysis but does not examine institutional relationships or innovation system structures.	mechanisms. Despite its empirical and Philippine-based context, it fails to meet Triple Helix criteria for inclusion in a meta-synthesis of innovation system relations.
SID-b320	Exclude	The study examines human resource variables and job satisfaction determinants within a single university. It does not address or document interactions among government, university, and industry actors and does not engage with innovation system structures.	The article provides organizational insights into factors influencing job satisfaction in a higher education institution. Its contribution is limited to internal HR analysis without reference to inter-organizational collaboration or innovation processes.	The study does not document government–university–industry interactions and does not analyze innovation-related relational dynamics. It is not Philippine-focused and does not meet the inclusion criteria for Triple Helix analysis due to the absence of cross-sectoral engagement.
SID-b321	Exclude	The article examines the relationship between ethical climate and faculty performance in instruction, research, and extension within State Universities and Colleges (SUCs). It does not present empirical evidence of government–university–industry interactions, institutional partnerships, or cross-sector collaboration. The focus remains on internal organizational conditions and faculty productivity.	The study analyzes how ethical climate dimensions relate to faculty performance across teaching, research, and extension functions. It reports low research productivity relative to instruction and extension and identifies positive correlations between ethical climate and performance outcomes in SUCs.	The study is Philippine-focused and empirical but does not document government–university–industry interactions or innovation system collaboration. It provides no evidence of research partnerships with industry, engagement with government innovation programs, or co-creation mechanisms across sectors. It does not meet Triple Helix criteria for inclusion in a meta-synthesis.
SID-b322	Exclude	The study evaluates academic performance outcomes of Philippine K–12 students and focuses on assessment results and pedagogical measurement. It does not provide empirical evidence of government–university–industry interactions or structured cross-sector collaboration.	The article presents descriptive and analytical findings on student achievement levels and assessment reliability. It contributes evidence relevant to educational performance evaluation and policy interpretation in basic education.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation system dynamics. It does not analyze institutional collaboration, co-creation processes, or sectoral linkages. It does not meet Triple Helix inclusion criteria.
SID-b323	Exclude	The study analyzes festival management and environmental sustainability in the Sinulog festival context. It does not provide empirical evidence of structured government–university–industry	The article identifies organizational constraints and enabling conditions for implementing environmental sustainability in festival operations, including policy needs, resource	The study is Philippine-focused and empirical but does not document government–university–industry interactions in innovation processes. It addresses festival governance and

		interactions in innovation governance or co-creation systems. Referenced partnerships are operational arrangements for event implementation rather than innovation collaboration.	allocation, and external coordination requirements.	sustainability management rather than cross-sector innovation systems. It does not meet Triple Helix criteria.
SID-b324	Exclude	The study evaluates usability perceptions of a telerehabilitation service at the University of the Philippines–Philippine General Hospital. It does not present empirical evidence of government–university–industry collaboration in technology development, innovation governance, or cross-sector co-creation.	The article assesses usability perceptions of a telehealth platform across providers and patients and identifies technical issues and user preferences relevant to service improvement in clinical delivery.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation system dynamics. It is a service usability evaluation within a healthcare setting and does not meet Triple Helix inclusion criteria.
SID-b325	Exclude	The study examines environmental monitoring and pollutant load assessment for Estero de Paco. It does not provide empirical evidence of government–university–industry interactions or collaborative innovation processes in environmental governance.	The article provides quantitative water quality measurements and identifies pollution loads contributing to environmental degradation. It informs sanitation priorities and watershed management needs.	Although Philippine-centered and empirical, the study does not document government–university–industry collaboration or innovation system interactions. It focuses on environmental assessment without cross-sector innovation analysis and does not meet Triple Helix criteria.
SID-b326	Exclude	The study models control strategies for highly pathogenic avian influenza using a spatial SEIR framework. It does not present empirical evidence of government–university–industry collaboration or co-innovation processes in disease control.	The article provides epidemiological modeling results evaluating intervention strategies, including culling policies and reporting timing. It generates policy-relevant insights on outbreak mitigation and control efficiency.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation system collaboration. It analyzes policy scenarios through modeling rather than cross-sector innovation processes and does not meet Triple Helix criteria.
SID-b327	Exclude	The study analyzes sustainability practices in rural banking institutions. It does not provide empirical evidence of government–university–industry interactions or structured innovation collaboration.	The article identifies levels of adoption of social, economic, and environmental sustainability practices in rural banks, highlighting stronger performance in social and economic dimensions and weaker environmental implementation.	Although Philippine-focused and empirical, the study does not document cross-sector collaboration or innovation system linkages among government, university, and industry actors. It addresses organizational sustainability practices rather than Triple Helix dynamics and does not meet inclusion criteria.

SID-b328	Exclude	The paper provides a conceptual and historical analysis of environmental governance in the global seafood industry. It does not empirically document government–university–industry interactions or innovation system collaboration in a Philippine context.	The article traces the evolution of stewardship frameworks in seafood governance, including shifts toward certification systems, voluntary programs, and multi-stakeholder environmental governance approaches.	The study lacks empirical evidence of government–university–industry interactions and is not grounded in Philippine innovation systems. It addresses global governance evolution rather than structured Triple Helix collaboration and does not meet inclusion criteria.
SID-b329	Exclude	The study evaluates the impact of the Philippine Energy Reform Act (EPIRA) on distribution utility performance using efficiency models. It does not document government–university–industry interactions or collaborative innovation processes.	The article provides quantitative evidence on regulatory reform effects on technical and operational efficiency of distribution utilities using DEA and SFA methods, contributing to regulatory performance evaluation.	Although Philippine-focused and empirical, the study does not analyze or document government–university–industry collaboration or innovation system dynamics. It treats policy reform as an external determinant of efficiency rather than a collaborative innovation process and does not meet inclusion criteria.
SID-b330	Exclude	The study analyzes the delayed enactment of the Philippine Competition Act through political and institutional lenses. It does not present empirical evidence of government–university–industry interactions or innovation-related collaboration.	The article explains policy delay through institutional dynamics, elite influence, and political processes, identifying domestic and global factors shaping competition policy development.	Although Philippine-focused and empirical, the study does not document government–university–industry interactions or innovation system linkages. It focuses on policy process analysis rather than cross-sector innovation collaboration and does not meet Triple Helix inclusion criteria.
SID-b331	Exclude	The study examines teacher leadership styles in educational settings. It does not document empirical government–university–industry interactions, institutional partnerships, or cross-sector collaboration in innovation processes.	The article contributes analysis of educational leadership and organizational behavior within school contexts, focusing on internal pedagogical and administrative dynamics.	The study is not Philippine-focused and does not provide evidence of government–university–industry interactions or innovation system collaboration. It does not meet Triple Helix criteria for inclusion.
SID-b332	Exclude	The study analyzes historical U.S.–Philippine economic relations using archival sources. It does not document government–university–industry interactions or innovation-related collaboration.	The article provides historical analysis of economic and political relations between the United States and the Philippines, focusing on institutional power, policy regimes, and economic linkages over time.	Although Philippine-focused and based on archival research, the study does not present empirical evidence of government–university–industry interactions or innovation system processes. It does not meet Triple Helix inclusion criteria.

SID-b333	Exclude	The study examines lived experiences of assistive technology users with spinal cord injury. It does not document government–university–industry interactions or structured innovation collaboration in assistive technology systems.	The article provides qualitative evidence on occupational justice, mobility, social inclusion, and structural barriers affecting assistive technology use in the Philippines.	The study does not document co-development of assistive technologies, cross-sector collaboration, or innovation governance involving government, universities, and industry. It does not meet Triple Helix criteria.
SID-b334	Exclude	The study analyzes coping strategies of low-income Filipino parents during the pandemic. It does not document government–university–industry interactions or innovation system collaboration.	The article provides qualitative insights into household coping mechanisms, economic hardship, psychosocial stress, and structural vulnerability during COVID-19.	Although Philippine-centered and empirical, the study does not analyze cross-sector innovation systems or document government–university–industry interactions. It does not meet Triple Helix inclusion criteria.
SID-b335	Exclude	The study uses expert elicitation involving nutrition and food-related professionals, including university-affiliated experts. It does not document structured government–university–industry interactions in innovation processes.	The article develops expert-derived databases on culturally defined food consumption patterns and macronutrient composition for low- and middle-income households to support nutrition policy and intervention design.	The study does not present evidence of coordinated government–university–industry collaboration or innovation co-governance. Expert involvement is methodological and not framed as Triple Helix interaction. It does not meet inclusion criteria.
SID-b336	Exclude	The study develops an economic simulation model to assess lockdown and social protection policies. It does not document government–university–industry collaboration or innovation system interactions.	The article quantifies socioeconomic disparities in lockdown impacts and evaluates the effects of social protection measures on equity using publicly available data.	Although policy-relevant and partially Philippine-focused, the study does not present empirical evidence of government–university–industry interactions or co-innovation processes. It does not meet Triple Helix inclusion criteria.
SID-b337	Exclude	The study examines implementation challenges of the MTB-MLE policy in Philippine schools. It does not document government–university–industry interactions or innovation system collaboration.	The article provides qualitative evidence on teacher experiences, pedagogical challenges, and implementation constraints in multilingual education policy execution.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation processes involving government, universities, and industry. It does not meet Triple Helix criteria.
SID-b338	Exclude	The study analyzes digital transformation in teaching and learning among Baby Boomer learners. It does not document government–university–industry	The article examines barriers, attitudes, and adaptation processes in digital learning among an older demographic group, contributing to educational technology and inclusion literature.	The study is not Philippine-focused and does not provide evidence of government–university–industry collaboration or innovation system interactions. It does not meet Triple Helix inclusion criteria.

		interactions or innovation system dynamics.		
SID-b339	Exclude	The study is centered on university actors (faculty, R&D managers, and institutional systems within Philippine public HEIs). Government appears only indirectly through references to national policy alignment and procurement systems as structural constraints, while industry actors are not empirically present or involved in any observed interactions. No explicit or implicit relational exchanges among government, university, and industry are documented; the analysis remains confined to internal university innovation culture and R&D processes.	The study contributes to understanding internal organizational innovation culture in public HEIs, particularly how institutional values, managerial systems, and capacity-building mechanisms influence R&D productivity. It highlights structural and functional constraints such as procurement delays, limited research incentives, weak research culture, and capacity gaps within universities, but does not extend to inter-organizational Triple Helix dynamics.	The study should be excluded because it does not provide clear empirical evidence of interactions among government, university, and industry actors. It is limited to intra-university innovation culture and organizational constraints, with only indirect references to government policy context and no industry participation or relational network evidence.
SID-b340	Exclude	The study examines psychological attribution of charisma in interpersonal contexts. It does not document government–university–industry interactions or innovation system processes.	The article contributes to social psychology by explaining cognitive and social mechanisms underlying perceptions of charisma in individuals.	The study is neither Philippine-focused nor related to government–university–industry interactions or innovation systems. It does not meet Triple Helix inclusion criteria.
SID-b341	Exclude	The study examines entrepreneurial intentions among women in digital entrepreneurship, focusing on psychological constructs and individual-level ecosystem factors. It does not document government–university–industry interactions, institutional partnerships, or co-creation mechanisms within innovation systems.	The article develops a causal model of entrepreneurial intention among women digital entrepreneurs, identifying motivational drivers such as personal will, opportunity recognition, stakeholder support, and social media engagement in a Philippine context.	Although Philippine-focused and empirical, the study does not provide evidence of government–university–industry collaboration, co-innovation processes, or systemic innovation dynamics. It does not meet Triple Helix inclusion criteria.
SID-b342	Exclude	The study examines gendered experiences in English language teaching within higher education institutions. It does not document government–university–industry interactions or cross-sector collaboration in innovation processes.	The article provides qualitative insights into gendered pedagogical practices, challenges, and strategies for gender-responsive English language teaching in Philippine higher education.	Although empirically grounded and Philippine-focused, the study does not analyze government–university–industry interactions or innovation system dynamics. It does not meet Triple Helix criteria.

SID-b343	Exclude	The study explores leadership philosophies of school administrators in BARMM. It does not provide empirical evidence of government–university–industry interactions or innovation-related collaboration.	The article identifies leadership orientations emphasizing community engagement, cultural sensitivity, and service ethos in a distinct sociopolitical educational context.	The study is Philippine-focused and empirical but does not document cross-sector collaboration or innovation system dynamics involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b344	Exclude	The study analyzes university governance modernization under a national higher education policy in China. It does not document government–university–industry interactions or collaborative innovation processes.	The article examines institutional governance reform and modernization pathways within universities responding to a top-down national policy framework.	The study lacks Philippine context and does not document government–university–industry interaction dynamics or innovation system collaboration. It does not meet Triple Helix inclusion criteria.
SID-b345	Exclude	The study examines nurse deployment and job satisfaction under a government program. It does not document government–university–industry interactions or structured innovation collaboration in healthcare systems.	The article analyzes workforce retention and policy impacts on nurse deployment, contributing to healthcare human resource management.	Although Philippine-focused and empirical, the study does not present evidence of cross-sector innovation collaboration or government–university–industry interactions. It does not meet Triple Helix inclusion criteria.
SID-b346	Exclude	The study examines corporate culture and strategic orientation in enterprises. It does not document government–university–industry interactions or innovation system collaboration.	The article analyzes internal organizational culture and strategic alignment in enterprises, contributing to understanding of managerial and competitiveness dynamics.	The study lacks Philippine focus and does not document government–university–industry interactions or innovation system processes. It does not meet Triple Helix inclusion criteria.
SID-b347	Exclude	The study reviews seaweed genetic resources and governance frameworks. It does not present empirical evidence of government–university–industry interactions or co-innovation processes.	The article synthesizes knowledge on seaweed genetic resource utilization, governance challenges, and sustainability issues in aquaculture development.	The study is a policy-oriented review and does not document empirical government–university–industry collaboration, joint research, or innovation system interactions. It does not meet Triple Helix inclusion criteria.
SID-b348	Exclude	The study focuses on curriculum design under the K to 12 framework in Philippine education. It does not document government–university–industry interactions in curriculum development or innovation processes.	The article examines curriculum adaptation informed by Augustinian educational philosophy and K to 12 policy implementation.	Although Philippine-focused and policy-relevant, the study does not analyze cross-sector collaboration or innovation system dynamics involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b349	Exclude	The study examines implementation of a smoking ban policy in schools. It does not document government–university–	The article evaluates policy compliance and awareness of smoking regulations	Although Philippine-focused and empirical, the study does not involve cross-sector collaboration or innovation

		industry interactions or innovation system collaboration.	among students in Philippine senior high schools.	processes among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b350	Exclude	The study analyzes the macroeconomic relationship between external debt and exchange rates. It does not document government–university–industry interactions or innovation system dynamics.	The article provides empirical evidence on the effects of external debt on currency fluctuations and macroeconomic stability in the Philippine economy.	Although Philippine-focused and empirical, the study addresses macroeconomic policy analysis rather than cross-sector innovation collaboration. It does not meet Triple Helix inclusion criteria.
SID-b351	Exclude	The study analyzes the relationship between biofuel commodities and macroeconomic indicators, including the Dubai Fatech Index and the Philippines Consumer Price Index (CPI). It does not document government–university–industry interactions, collaborative innovation processes, or innovation system governance.	The article examines economic linkages between biofuel markets and inflationary indicators, contributing empirical evidence on commodity price dynamics and macroeconomic effects relevant to policy analysis.	Although Philippine-focused and empirical, the study does not present evidence of government–university–industry collaboration or co-creation of biofuel technologies, innovation governance, or cross-sector innovation systems. It does not meet Triple Helix inclusion criteria.
SID-b352	Exclude	The study investigates scientific literacy development among junior high school students. It does not document government–university–industry interactions or cross-sector collaboration in educational innovation systems.	The article analyzes factors influencing scientific literacy and contributes to understanding curriculum effectiveness and classroom-level pedagogical development in basic education.	Although Philippine-specific and policy-relevant, the study does not involve government–university–industry collaboration or innovation system dynamics. It does not meet Triple Helix inclusion criteria.
SID-b353	Exclude	The study applies optimization modeling to emergency response facility placement in disaster management. It does not document government–university–industry interactions or collaborative innovation in emergency systems.	The article contributes an optimization framework for improving emergency facility allocation and enhancing disaster response efficiency in Davao City.	Although Philippine-focused and policy-relevant, the study does not present cross-sector collaboration among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b354	Exclude	The study examines public perceptions of COVID-19 prevention measures during ECQ. It does not document government–university–industry interactions or innovation system collaboration in public health response.	The article analyzes behavioral responses and perceptions of government-enforced health measures, contributing to understanding of public health compliance and communication effectiveness.	Although Philippine-focused and empirical, the study does not involve cross-sector collaboration or co-innovation among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b355	Exclude	The study analyzes student retention in an Accountancy program. It does not	The article identifies academic and institutional factors affecting student	Although Philippine-specific and empirical, the study focuses on internal

		document government–university–industry interactions or innovation system collaboration in higher education.	retention, contributing to program management and educational planning within universities.	university processes and does not involve cross-sector collaboration or innovation system dynamics. It does not meet Triple Helix inclusion criteria.
SID-b356	Exclude	The study examines obstetric and perinatal outcomes among adolescent mothers. It does not document government–university–industry interactions or collaborative innovation in healthcare systems.	The article provides clinical and public health evidence on maternal and perinatal outcomes, contributing to understanding of adolescent pregnancy risks and healthcare needs.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation system processes involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b357	Exclude	The study examines market risks and coping strategies in shrimp farming. It does not document government–university–industry interactions or innovation system collaboration in agriculture.	The article analyzes risk exposure and adaptive strategies among shrimp farmers in managing market uncertainty and production challenges.	Although empirical and agriculture-focused, the study does not involve cross-sector innovation collaboration among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b358	Exclude	The study analyzes consumer behavior in the Philippine luxury fashion market. It does not document government–university–industry interactions or innovation system dynamics.	The article examines consumer satisfaction and the influence of fashion trends on purchasing behavior, including generational differences among Millennials.	Although Philippine-focused and empirical, the study addresses market behavior rather than cross-sector collaboration or innovation systems. It does not meet Triple Helix inclusion criteria.
SID-b359	Exclude	The study examines tourist satisfaction, destination image, and revisit intentions in Philippine tourism. It does not document government–university–industry interactions in tourism innovation systems.	The article analyzes determinants of tourist satisfaction and behavioral intentions, contributing to destination marketing and tourism management knowledge.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration among government, universities, and industry in tourism innovation. It does not meet Triple Helix inclusion criteria.
SID-b360	Exclude	The study examines school re-entry among adolescents in Kenya. It does not document government–university–industry interactions or innovation system collaboration.	The article analyzes barriers and enabling factors influencing school re-entry, including socio-economic and policy-related determinants.	The study is not Philippine-focused and does not involve cross-sector collaboration or innovation system dynamics among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b361	Exclude	The study examines rice farm productivity in Central Luzon based on farm-level inputs, practices, and environmental factors. It does not document	The article identifies determinants of rice productivity, including resource use, farming techniques, and environmental conditions, contributing to agricultural	Although Philippine-focused and empirical, the study does not present evidence of cross-sector collaboration or innovation processes involving

		government–university–industry interactions or innovation system collaboration in the rice sector.	productivity analysis and rural development evidence.	government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b362	Exclude	The study analyzes graduate employability factors and university training outcomes. It does not document government–university–industry interactions or collaborative innovation in education-to-employment systems.	The article identifies skills gaps, curriculum alignment issues, and employer expectations affecting graduate employability and university program outcomes.	Although Philippine-focused and empirical, the study does not examine government–university–industry collaboration or systemic innovation in employability frameworks. It does not meet Triple Helix inclusion criteria.
SID-b363	Exclude	The study examines productivity factors in sugarcane farming based on farm-level conditions. It does not document government–university–industry interactions or agricultural innovation systems.	The article analyzes determinants of sugarcane productivity, including inputs, technologies, training, and farm management practices, contributing to agricultural efficiency literature.	Although Philippine-focused and empirical, the study does not address cross-sector collaboration or innovation system dynamics involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b364	Exclude	The study discusses aquaculture and sea-based fish farming without documenting government–university–industry interactions or collaborative innovation processes.	The article provides a general discussion of aquaculture sustainability and sectoral practices, contributing to understanding of production systems and environmental considerations.	The study does not analyze Philippine-specific innovation systems or document cross-sector collaboration among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b365	Exclude	The study evaluates feasibility of introducing a new degree program in a university setting. It does not document government–university–industry interactions in program development or innovation processes.	The article assesses institutional demand and feasibility considerations for establishing a Bachelor of Music in Music Education program, contributing to academic program planning.	Although Philippine-focused and empirical, the study does not involve cross-sector collaboration or innovation system dynamics among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b366	Exclude	The study evaluates student experiences in an agricultural internship program. It does not document government–university–industry collaboration in program design, implementation, or innovation development.	The article provides feedback on internship effectiveness, including strengths and weaknesses in preparing students for agricultural practice and employment.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation system interactions in internship program development. It does not meet Triple Helix inclusion criteria.
SID-b367	Exclude	The study assesses awareness of Deaf culture and Filipino Sign Language among hospitality industry stakeholders. It does not document government–university–	The article evaluates communication awareness and employability conditions for Deaf individuals in the hospitality sector and proposes intervention strategies for inclusion.	Although Philippine-focused and empirical, the study does not present evidence of cross-sector collaboration among government, universities, and

		industry interactions or collaborative innovation processes.		industry. It does not meet Triple Helix inclusion criteria.
SID-b368	Exclude	The study examines teachers' mental health during the COVID-19 pandemic. It does not document government–university–industry interactions or systemic innovation in education support systems.	The article identifies stressors affecting teachers' mental health, including workload, remote teaching demands, and emotional strain during pandemic conditions.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation system responses involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b369	Exclude	The study analyzes tidal stream energy policy and missionary electrification programs. It does not document government–university–industry interactions or collaborative energy innovation systems.	The article evaluates renewable energy policy constraints and compares tidal stream energy with existing diesel-based electrification schemes, contributing to energy policy analysis.	Although Philippine-focused and empirical, the study does not present evidence of cross-sector collaboration or innovation governance among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b370	Exclude	The study examines financial management practices in agribusiness enterprises. It does not document government–university–industry interactions or innovation system collaboration.	The article analyzes financial strategies, challenges, and management practices influencing the economic sustainability of agribusiness firms.	Although Philippine-focused and empirical, the study does not involve cross-sector collaboration or innovation processes among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b371	Exclude	The study examines financial management systems in small-scale agricultural industries and proposes a training scheme. It does not document government–university–industry interactions or innovation system collaboration in agricultural finance or enterprise development.	The article identifies financial management challenges in small agricultural enterprises and proposes a training intervention to address gaps in financial knowledge and practice.	Although Philippine-focused and empirical, the study does not present evidence of cross-sector collaboration among government, universities, and industry. It does not analyze co-creation, policy-driven innovation, or institutional partnerships within an innovation system. It does not meet Triple Helix inclusion criteria.
SID-b372	Exclude	The study analyzes government policy initiatives facilitating or constraining university–industry collaboration for innovation in the Philippines. It explicitly documents government agencies, universities, and industry actors engaged in regional innovation networks and innovation hub development.	The article identifies structural and relational barriers in implementing university–industry partnerships, including governance weaknesses, funding limitations, and coordination gaps that affect innovation outcomes.	The study provides empirical evidence of government–university–industry interactions in the Philippine innovation system. It directly examines collaborative networks, policy implementation, and institutional dynamics shaping innovation outcomes. It meets Triple Helix inclusion criteria.

SID-b373	Exclude	The study examines fishing methods and occupational safety practices among fishermen. It does not document government–university–industry interactions or innovation system collaboration in the fisheries sector.	The article describes occupational practices and safety conditions in local fishing communities, contributing to understanding of livelihood conditions and workplace risks.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation processes involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b374	Exclude	The study evaluates flexible learning in an environmental science course within a university setting. It does not document government–university–industry interactions or cross-sector educational innovation systems.	The study evaluates flexible learning in an environmental science course within a university setting. It does not document government–university–industry interactions or cross-sector educational innovation systems.	Although Philippine-focused and empirical, the study is confined to intra-university instructional evaluation and does not present government–university–industry collaboration in educational innovation. It does not meet Triple Helix inclusion criteria.
SID-b375	Exclude	The study analyzes food consumption behavior during the COVID-19 pandemic. It does not document government–university–industry interactions or innovation system responses in food systems.	The article examines changes in consumer food preferences, purchasing patterns, and dietary behavior during the pandemic period.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation processes involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b376	Exclude	The study examines food consumption behavior during the pandemic. It does not document government–university–industry interactions or collaborative innovation in food systems.	The article identifies shifts in consumer preferences and behavioral responses to food access and consumption during COVID-19 conditions.	Although empirical, the study does not address cross-sector collaboration or innovation system dynamics among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b377	Exclude	The study evaluates food safety compliance among micro food business operators. It does not document government–university–industry interactions or coordinated food safety innovation systems.	The article identifies compliance gaps in sanitation, hygiene practices, and operational food safety standards among micro-enterprises during the pandemic.	Although Philippine-focused and empirical, the study does not present evidence of cross-sector collaboration or innovation governance involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b378	Exclude	The study examines food safety practices among home-based food handlers. It does not document government–university–industry interactions or coordinated regulatory and innovation systems.	The article provides quantitative evidence of inadequate food safety practices and identifies demographic differences in compliance behavior.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration or innovation system participation involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.

				does not meet Triple Helix inclusion criteria.
SID-b379	Exclude	The study examines food safety practices among street food vendors. It does not document government–university–industry interactions or food system innovation collaboration.	The article identifies gaps in food safety compliance, training, and enforcement among street food vendors in a Philippine context.	Although Philippine-focused and empirical, the study does not address cross-sector collaboration or innovation system dynamics among government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b380	Exclude	The study examines sanitation practices among Home Economics students. It does not document government–university–industry interactions or innovation system collaboration in food safety education.	The article assesses student sanitation practices and compliance within an educational institution context.	Although Philippine-focused and empirical, the study does not analyze cross-sector collaboration involving government, universities, and industry. It does not meet Triple Helix inclusion criteria.
SID-b381	Exclude	The study analyzes the implementation effects of Republic Act No. 11203 (Rice Tariffication Law) on rice millers in Nueva Ecija. Government functions as a regulatory actor through tariff policy intervention. The study does not document university or research institution participation and does not report any government–university–industry interaction in policy execution, innovation activity, or sectoral upgrading.	The study provides a sectoral analysis of rice miller adaptation under tariff reform. It identifies continued reliance on traditional trading practices, limited importation engagement, and adjustment constraints following liberalization. It proposes a business model focused on operational expansion, financing access, and income diversification. The analysis is descriptive and confined to firm-level adjustment.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction, co-production mechanisms, and innovation system coordination. Government operates solely as a regulator. Industry is limited to policy-affected firms. Universities and research institutions are absent as collaborators or innovation intermediaries. No cross-sector collaboration or institutionalized interaction is documented.
SID-b382	Exclude	The study focuses on forecasting agricultural commodity prices using statistical methods. It does not examine government–university–industry interactions or innovation system dynamics.	The study applies ARIMA-based forecasting to agricultural commodity pricing. It contributes to price prediction and economic analysis of agricultural markets through statistical modeling. The analysis is technical and econometric in nature.	The study does not meet Triple Helix criteria because it does not examine government–university–industry interaction or collaborative innovation processes. Government policy influence, university research participation, and industry engagement in co-developing forecasting systems are absent. The study constitutes a technical modeling exercise without innovation system integration.
SID-b383	Exclude	The study presents a CGIAR agricultural foresight framework involving	The study develops a systematic framework for collecting, tagging, and	The study does not meet Triple Helix criteria because it does not document

		governments, research organizations, and private sector stakeholders as users of outputs. It does not analyze empirical government–university–industry interaction within a specific innovation system.	synthesizing agricultural foresight research. It improves aggregation of foresight outputs for policy and strategic decision-support in global food systems. The contribution is methodological and informational.	government–university–industry interaction or co-production processes. Governments, research institutions, and industry are treated as end-users rather than interacting actors in an innovation system. No institutionalized collaboration or knowledge co-creation is analyzed.
SID-b384	Exclude	The study addresses implementation of the global biodiversity framework. It does not examine government–university–industry interaction in the Philippine innovation system.	The study contributes to policy discourse on biodiversity mainstreaming across sectors at global and regional levels. It focuses on policy integration and sustainability alignment.	The study does not meet Triple Helix criteria because it does not document government–university–industry collaboration or innovation system processes. Government policy, academic research, and industry participation are not analyzed as interacting components. No structured cross-sector innovation activity is reported in the Philippine context.
SID-b385	Exclude	The study examines Fourth Industrial Revolution (4IR) implications for higher education curriculum design. It focuses on universities as the primary actor. It does not document government or industry participation in structured collaboration.	The study addresses curriculum redesign to align higher education with 4IR labor market demands. It emphasizes academic responsiveness, curriculum relevance, and faculty development for digital economy readiness.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction. Government is not engaged as a policy or funding actor. Industry is not involved in curriculum co-design or workforce alignment. The analysis remains confined to university-level educational reform.
SID-b386	Exclude	The study examines internationalization processes in teacher education institutions. It focuses on internal university systems. It does not document government or industry participation in collaboration.	The study identifies institutional drivers and barriers in implementing internationalization strategies in teacher education. It focuses on curriculum alignment and administrative planning.	The study does not meet Triple Helix criteria because it does not document government–university–industry interaction or co-governance mechanisms. Government and industry actors are not integrated into the internationalization framework. The analysis is restricted to intra-institutional processes.
SID-b387	Exclude	The study examines crisis management practices in DOT-accredited staycation hotels during COVID-19. It focuses on the	The study evaluates hotel management practices, health protocol implementation, and guest satisfaction. It	The study does not meet Triple Helix criteria because it lacks documented interaction among government,

		hospitality industry. It does not analyze government–university–industry interaction.	develops a crisis management framework based on empirical hotel-level data.	universities, and industry. Government is referenced only as an accreditation context. Universities are not involved in knowledge production or collaboration. No innovation system or cross-sector coordination is present.
SID-b388	Exclude	The study focuses on gender inclusion in academic philosophy. It does not examine government–university–industry interaction in innovation systems.	The study analyzes the inclusion of Filipino women philosophers in academic philosophy. It addresses representation and disciplinary barriers within the field.	The study does not meet Triple Helix criteria because it does not analyze collaboration among government, universities, and industry. It focuses on disciplinary inclusion rather than innovation system dynamics. No cross-sector interaction is documented.
SID-b389	Exclude	The study addresses transitions from inorganic to organic practices. It does not document government–university–industry interaction in implementation processes.	The study discusses sustainability transition pathways toward organic practices, focusing on governance, academic, and industry roles in principle.	The study does not meet Triple Helix criteria because it does not document empirical government–university–industry collaboration. No structured innovation system, joint implementation mechanism, or cross-sector coordination is reported.
SID-b390	Exclude	The study examines corporate social responsibility (CSR) responses during COVID-19 in hotels and private companies. It focuses on industry activity. It does not analyze government–university–industry interaction.	The study analyzes CSR practices such as employee vaccination programs and hotel repurposing for quarantine use. It focuses on crisis-related corporate behavior in the hospitality sector.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry collaboration. Government involvement is not analyzed as part of a coordinated system. Universities are absent as actors. Industry activity is limited to CSR responses without innovation system integration.
SID-b391	Exclude	The study addresses the International Comparison Program (ICP), a global statistical initiative comparing GDP, price levels, and purchasing power parity. It involves international organizations, national governments, and research institutions in data compilation. It does not examine Philippine government–	The study supports global economic comparison through standardized data collection and cross-country benchmarking of economic indicators. It contributes to international statistical coordination for economic measurement and policy comparison.	The study does not meet Triple Helix criteria because it does not document government–university–industry interaction within a national innovation system. Participation is limited to global data coordination roles and does not constitute structured co-production, innovation collaboration, or

		university–industry interaction or innovation system dynamics.		institutionalized interaction in the Philippine context.
SID-b392	Exclude	The study discusses omics technologies in post-pandemic environmental health and food security. It references government, universities, and industry in conceptual terms but does not analyze their interaction within an innovation system.	The study positions omics technologies as enabling tools for systems-level understanding of environmental health and food security challenges. It emphasizes conceptual applications for sustainability and scientific advancement.	The study does not meet Triple Helix criteria because it does not document government–university–industry collaboration or co-production. Government, universities, and industry are described as separate functional actors without empirical interaction, joint governance, or innovation system integration.
SID-b393	Exclude	The study evaluates technology and internet access in science education for junior high school students. It focuses on schools and learners and does not analyze government–university–industry collaboration.	The study demonstrates that access to digital tools and internet connectivity improves student performance in science education. It identifies infrastructure gaps affecting learning outcomes in marine biodiversity education.	The study does not meet Triple Helix criteria because it does not document interaction among government, universities, and industry. Government appears only as a recommended infrastructure provider, universities function as educational sites, and industry actors (e.g., telecommunications providers) are not involved in collaboration or innovation processes.
SID-b394	Exclude	The study addresses gender bias in vocational education. It does not examine government–university–industry interaction or innovation system dynamics.	The study analyzes gender bias in educational settings and its implications for vocational training environments.	The study does not meet Triple Helix criteria because it does not analyze collaboration or interaction among government, universities, and industry. It focuses on sociocultural dynamics within education and does not address innovation systems or cross-sector coordination.
SID-b395	Exclude	The study examines gender experience in music through an autoethnographic-phenomenological approach. It does not address government–university–industry interaction.	The study explores lived experiences of gender in the music field and contributes to cultural and gender discourse in artistic practice.	The study does not meet Triple Helix criteria because it does not examine innovation systems or cross-sector collaboration among government, universities, and industry. It focuses exclusively on individual and cultural experience within the music domain.
SID-b396	Exclude	The study examines generational diversity in the government workforce and its	The study analyzes workforce dynamics within government institutions, focusing	The study does not meet Triple Helix criteria because it does not involve

		relation to job involvement and organizational commitment. It does not analyze government–university–industry interaction.	on generational differences in job involvement and organizational commitment.	universities or industry actors and does not address innovation systems or cross-sector collaboration. The analysis is confined to internal government workforce behavior.
SID-b397	Exclude	The study examines the shift from in-person genetic counseling to telegenetics during COVID-19 in the Philippines. It focuses on healthcare service delivery and does not analyze structured government–university–industry interaction.	The study documents the adoption of telegenetics as a continuity mechanism for genetic counseling services during the pandemic. It identifies increased demand for genetic services and expanded access through telehealth adaptation.	The study does not meet Triple Helix criteria because it does not document collaboration among government, universities, and industry. Government involvement is limited to general health system context, universities are not engaged as research or implementation partners, and industry actors are not analyzed as collaborative participants in innovation processes.
SID-b398	Exclude	The study addresses genetic discrimination from an Asian perspective. It does not examine government–university–industry interaction or innovation systems in the Philippines.	The study contributes to ethical and social discourse on genetic discrimination within an Asian context.	The study does not meet Triple Helix criteria because it does not analyze government–university–industry collaboration or innovation processes. It focuses on ethical dimensions rather than cross-sectoral innovation system dynamics.
SID-b399	Exclude	The study examines genetic parameters in Hanwoo cattle breeding. It does not involve Philippine government–university–industry interaction or innovation systems.	The study provides genetic analysis of livestock traits including birth weight, weaning weight, and reproductive parameters in Hanwoo cattle.	The study does not meet Triple Helix criteria because it does not address government–university–industry interaction or innovation system processes. It is confined to animal genetics research without cross-sector collaboration relevance.
SID-b400	Exclude	The study conducts literary analysis of dystopian themes in David Hontiveros' Seroks Iteration 1: Mirror Man. It does not examine government–university–industry interaction.	The study analyzes dystopian narrative structures and thematic elements within a Filipino literary text, contributing to cultural and literary criticism.	The study does not meet Triple Helix criteria because it does not address innovation systems or government–university–industry collaboration. It is confined to literary analysis and does not engage with cross-sectoral interaction or innovation dynamics.
SID-b401	Exclude	The study examines the chemical and thermal properties of Almaciga resins	The study provides technical characterization of Almaciga resin	The study does not meet Triple Helix criteria because it does not document

		from commercial sites. It does not analyze government–university–industry interactions or institutional collaboration. Industry presence is limited to sampling locations without engagement in innovation or knowledge exchange.	properties, contributing to materials and forest product science. It is sectoral and laboratory-based, without analysis of innovation systems or institutional coordination.	government–university–industry interaction, collaboration, or innovation system processes. No cross-sector coordination or institutionalized knowledge exchange is present.
SID-b402	Exclude	The study addresses mining governance, environmental responsibility, and restoration discourse. It does not document empirical government–university–industry interaction or collaborative innovation processes.	The study provides normative and conceptual analysis of responsible mining and ecological restoration. It focuses on policy discourse rather than institutional collaboration or innovation system dynamics.	The study does not meet Triple Helix criteria because it does not analyze structured interaction among government, universities, and industry. No empirical evidence of collaboration, knowledge production, or innovation processes is provided.
SID-b403	Exclude	The study applies GIS and Analytical Hierarchy Process to assess biomass energy sustainability. It does not examine government–university–industry interaction or coordinated innovation processes.	The study provides spatial and decision-analytic evaluation of biomass energy sustainability. It contributes methodological tools for sustainability assessment.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or innovation system dynamics. Government, universities, and industry are not analyzed as interacting actors.
SID-b404	Exclude	The study is a global epidemiological analysis conducted by international research consortia. It does not examine Philippine government–university–industry interaction.	The study provides comparative global health estimates and risk factor attribution for disease burden analysis. It contributes to international public health evidence synthesis.	The study does not meet Triple Helix criteria because it does not analyze innovation systems or institutional collaboration involving government, universities, and industry in the Philippines.
SID-b405	Exclude	The study is a global systematic review and meta-analysis of human parainfluenza virus. It does not examine government–university–industry interaction or Philippine innovation systems.	The study synthesizes global epidemiological evidence on disease burden and transmission patterns. It contributes to health research evidence consolidation.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or innovation processes. It lacks Philippine context and institutional interaction analysis.
SID-b406	Exclude	The study is a critical or interpretive essay on contemporary Philippine art. It does not analyze structured government–university–industry interaction.	The study provides cultural and theoretical interpretation of artistic production and positioning in contemporary art discourse.	The study does not meet Triple Helix criteria because it does not present empirical evidence of innovation system interaction or cross-sector collaboration among government, universities, and industry.

SID-b407	Exclude	The study examines civil society organizations in relation to grants and economic status. CSOs are not core Triple Helix actors, and the study does not analyze government–university–industry interaction.	The study addresses NGO financing structures and development aid dependence. It focuses on organizational sustainability rather than innovation systems.	The study does not meet Triple Helix criteria because it does not document interaction among government, universities, and industry or analyze innovation-related collaboration.
SID-b408	Exclude	The study analyzes regional economic indicators (GRDP, employment, population) and poverty incidence. It does not examine government–university–industry interaction.	The study provides econometric analysis of macroeconomic variables affecting regional poverty outcomes. It clarifies statistical relationships among development indicators.	The study does not meet Triple Helix criteria because it does not analyze innovation systems or cross-sector collaboration among government, universities, and industry.
SID-b409	Exclude	The study evaluates abaca growth in rehabilitated mine soils using agricultural residues. It does not document structured government–university–industry interaction.	The study provides experimental evidence on crop response in rehabilitated mining soils. It contributes to agronomic and environmental rehabilitation research.	The study does not meet Triple Helix criteria because it does not analyze institutional collaboration or innovation system coordination among government, universities, and industry.
SID-b410	Exclude	The study is a guest editorial focused on thematic commentary. It does not present empirical government–university–industry interaction.	The study provides normative and agenda-setting commentary on innovation-related or policy-relevant themes without empirical analysis.	The study does not meet Triple Helix criteria because it is not original empirical research and does not document cross-sector collaboration or innovation system dynamics among government, universities, and industry.
SID-b411	Exclude	The study focuses on cybersecurity issues in IPv6 extension headers and open-source firewall vulnerabilities. It does not examine government–university–industry interactions or innovation system dynamics in the Philippine context.	The study provides a technical security analysis of network protocol vulnerabilities and firewall weaknesses. It contributes to cybersecurity engineering and systems security knowledge.	The study does not meet Triple Helix criteria because it does not document interaction among government, universities, and industry or analyze innovation processes. It is a technical cybersecurity study without institutional collaboration or innovation system relevance.
SID-b412	Exclude	The study examines the cost burden of Hepatitis B immunoglobulin vaccination. It does not analyze government–university–industry interaction or innovation system coordination.	The study provides cost and economic analysis of vaccination and public health financing. It contributes to health economics and policy cost assessment.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration among government, universities, and industry. It lacks analysis of innovation processes, institutional coordination, or knowledge co-production.

SID-b413	Exclude	The study examines users of health information systems in public health facilities. It does not analyze government–university–industry interaction.	The study evaluates utilization patterns and operational performance of health information systems in public facilities. It contributes to health systems management.	The study does not meet Triple Helix criteria because it does not examine innovation systems or collaboration among government, universities, and industry. It is limited to administrative and operational analysis within health facilities.
SID-b414	Exclude	The study examines online literature and the #RomanceClass digital community in the Philippines. It does not analyze government–university–industry interaction or innovation systems.	The study analyzes digital literary production and community formation in online cultural spaces. It contributes to cultural and literary studies of digital communities.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or innovation system dynamics involving government, universities, and industry. It is confined to cultural production and digital community analysis.
SID-b415	Exclude	The study focuses on affective products and environments in design or consumer experience research. It does not examine government–university–industry interaction.	The study analyzes affective responses to products and environments, contributing to design and experiential research.	The study does not meet Triple Helix criteria because it does not analyze innovation systems or cross-sector collaboration among government, universities, and industry. It lacks institutional or relational analysis relevant to innovation dynamics.
SID-b416	Exclude	The study examines outcomes-based education in higher education. It does not analyze government–university–industry interaction or innovation systems.	The study evaluates pedagogical and policy aspects of outcomes-based education implementation in higher education institutions.	The study does not meet Triple Helix criteria because it does not document collaboration among government, universities, and industry. It focuses on educational reform without innovation system or cross-sector coordination analysis.
SID-b417	Exclude	The study examines nineteenth-century Philippine church music and cultural modernity. It does not analyze government–university–industry interaction or innovation systems.	The study contributes to historical musicology and cultural history by analyzing colonial-era religious and musical practices.	The study does not meet Triple Helix criteria because it does not examine innovation systems or institutional collaboration among government, universities, and industry. It is limited to cultural-historical analysis.
SID-b418	Exclude	The study examines a local cultural festival and its socio-cultural and economic implications. It does not	The study contributes to cultural studies and local development analysis through examination of festival impacts and community dynamics.	The study does not meet Triple Helix criteria because it does not document structured interaction among government, universities, and industry. It

		analyze government–university–industry interaction or innovation systems.		does not analyze innovation processes or system-level coordination.
SID-b419	Exclude	The study examines a local cultural festival and its socio-cultural and economic implications. It does not analyze government–university–industry interaction or innovation systems.	The study contributes to cultural and local development research through analysis of festival-related socio-economic effects.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or innovation system dynamics among government, universities, and industry. It remains within cultural and local development analysis.
SID-b420	Exclude	The study examines healthcare financing involving a university hospital and a government agency during COVID-19. It does not analyze industry participation or structured government–university–industry innovation interaction.	The study provides health economics analysis of hospitalization costs and insurance coverage under public health financing arrangements.	The study does not meet Triple Helix criteria because it does not document tri-sector interaction among government, universities, and industry or analyze innovation system processes. It focuses on service delivery and financing rather than innovation-oriented collaboration.
SID-b421	Exclude	The study focuses on entrepreneurial strategies for operational success under challenging conditions. It does not analyze government–university–industry interactions or innovation system dynamics.	The study contributes to entrepreneurship and management literature by examining operational resilience and strategic adaptation in firms under constrained conditions.	The study does not meet Triple Helix criteria because it does not document interactions among government, universities, and industry or analyze innovation-related collaboration. It lacks empirical evidence of cross-sector innovation system engagement.
SID-b422	Exclude	The study designs a story-based video intervention to address vaccine hesitancy using human-centered design. It does not document government–university–industry interaction in innovation processes.	The study presents a methodological protocol for developing a health communication intervention using mixed-methods design.	The study does not meet Triple Helix criteria because it is a research protocol without empirical findings and does not document collaboration among government, universities, and industry in innovation processes or knowledge co-creation.
SID-b423	Exclude	The study examines government policy on sustainable tourism during COVID-19. It does not document interaction among government, universities, and industry actors.	The study analyzes policy measures for sustainable tourism governance during the pandemic context.	The study does not meet Triple Helix criteria because it does not analyze government–university–industry collaboration or innovation system processes. It focuses on policy description without cross-sector innovation dynamics.

SID-b424	Exclude	The study examines ethics committees and regulatory requirements in health research governance. It does not document government–university–industry interaction in innovation processes.	The study analyzes regulatory and ethical governance structures shaping health research approval and compliance processes.	The study does not meet Triple Helix criteria because it does not analyze innovation system collaboration or cross-sector co-production among government, universities, and industry. It focuses on procedural governance rather than innovation dynamics.
SID-b425	Exclude	The study examines India’s minimum support price policy and its effects on commodity prices. It is outside the Philippine innovation system context.	The study analyzes agricultural price stabilization policy and its economic effects in India.	The study does not meet Triple Helix criteria because it does not examine government–university–industry interactions or innovation system processes and is not situated in the Philippine context.
SID-b426	Exclude	The study examines human capital investment and economic growth. It does not document government–university–industry interaction in innovation processes.	The study analyzes macroeconomic relationships between human capital formation and economic growth outcomes.	The study does not meet Triple Helix criteria because it does not analyze cross-sector collaboration or innovation system dynamics among government, universities, and industry, despite its Philippine focus.
SID-b427	Exclude	The study focuses on hydrologic modeling and flood management for land-use planning. It does not document government–university–industry interaction in innovation processes.	The study contributes to environmental modeling and flood risk management for policy planning and land-use decision support.	The study does not meet Triple Helix criteria because it does not analyze innovation system collaboration or cross-sector coordination among government, universities, and industry.
SID-b428	Exclude	The study develops a mobile educational game for literacy improvement. It does not document government–university–industry interaction in innovation processes.	The study contributes to educational technology design for improving phonemic awareness and vocabulary acquisition.	The study does not meet Triple Helix criteria because it does not analyze cross-sector collaboration or innovation system dynamics among government, universities, and industry in the development or deployment of the technology.
SID-b429	Exclude	The study identifies and documents intangible cultural heritage in Tabaco City. It does not analyze government–university–industry interaction.	The study contributes to cultural heritage documentation and local preservation efforts.	The study does not meet Triple Helix criteria because it does not document innovation system processes or collaboration among government, universities, and industry. It focuses on cultural preservation rather than innovation dynamics.

SID-b430	Exclude	The study models avian influenza risk areas using epidemiological methods. It does not analyze government–university–industry interaction in innovation processes.	The study contributes to public health risk mapping and disease surveillance for avian influenza.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or innovation system dynamics among government, universities, and industry. It focuses on epidemiological modeling rather than innovation processes.
SID-b431	Exclude	The study examines challenges in abaca production, focusing on farmer experiences, agricultural practices, and local production constraints. Government presence is limited to policy or extension references. There is no documented interaction among government, universities, and industry actors in innovation, co-development, or knowledge transfer within the Philippine innovation system.	The study contributes to agricultural production knowledge by identifying local constraints and sectoral development issues in abaca farming. The analysis remains grounded in production-level conditions and does not extend to institutional coordination or innovation system structures.	The study does not meet Triple Helix criteria because it provides no empirical evidence of government–university–industry interactions, co-production mechanisms, or innovation system coordination. Universities are not involved as research or innovation actors, and industry engagement is limited to primary production. No collaborative innovation processes or structured cross-sector relationships are documented.
SID-b432	Exclude	The study focuses on seaweed culture and the Inter-island Seaweeds Association. Government support and local producer activity are referenced, but there is no documented interaction among government, universities, and industry in innovation, knowledge transfer, or system-level coordination.	The study contributes to understanding socio-economic and environmental aspects of seaweed production and local organizational activity. It does not address innovation governance or institutional collaboration structures.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction and does not analyze co-production or innovation system dynamics. Universities are absent as innovation actors, and no structured collaboration among the three helices is reported.
SID-b433	Exclude	The study examines socio-economic and environmental impacts of seaweed farming through the Inter-island Seaweeds Association. Government presence is contextual, and industry actors are represented by producers. No interaction with universities or structured Triple Helix collaboration is documented.	The study provides insight into production impacts and local livelihood conditions in seaweed farming. It does not address innovation processes, institutional coordination, or system-level collaboration.	The study does not meet Triple Helix criteria because it provides no evidence of government–university–industry interaction or innovation-related co-production. The analysis is limited to sectoral impacts without engagement in innovation system structures.
SID-b434	Exclude	The study examines Airbnb’s impact on the Philippine accommodation sector. Government appears only as a regulatory	The study provides sectoral and market analysis of platform-driven changes in accommodation services. It does not	The study does not meet Triple Helix criteria because it lacks documented government–university–industry

		context, and universities are not involved. There is no documented interaction among government, universities, and industry in innovation processes or system-level coordination.	address innovation governance or institutional collaboration.	interaction and does not analyze innovation system dynamics. Industry activity is examined in isolation without cross-sector collaboration.
SID-b435	Exclude	The study analyzes COVID-19 impacts on sardine production in Bulan, Sorsogon. Government policy is contextual, and fishers represent industry actors. Universities are not involved, and no Triple Helix interaction is documented.	The study assesses production disruptions and local economic impacts in the fisheries sector. It does not engage with innovation systems or institutional coordination.	The study does not meet Triple Helix criteria because it provides no evidence of government–university–industry interaction or innovation-related processes. The analysis is limited to sectoral production impacts.
SID-b436	Exclude	The study examines disruptions to routine immunization across multiple countries. Government and health institutions are referenced, but there is no documented interaction among government, universities, and industry in innovation or system coordination, and no Philippine-specific innovation focus.	The study contributes to global public health program analysis and implementation challenges. It does not address innovation system structures or cross-sector collaboration.	The study does not meet Triple Helix criteria because it lacks Philippine-context evidence and does not document government–university–industry interaction or innovation system processes.
SID-b437	Exclude	The study analyzes COVID-19 impacts on DPWH-managed construction projects. Government is the sole institutional actor. There is no involvement of universities or industry in innovation, co-development, or structured collaboration.	The study evaluates operational disruptions and project delays in public infrastructure delivery. It does not engage with innovation systems or institutional coordination.	The study does not meet Triple Helix criteria because it lacks government–university–industry interaction and does not analyze innovation processes or cross-sector collaboration.
SID-b438	Exclude	The study examines COVID-19 policy impacts on small-scale fishers in Davao Gulf. Government policy and industry actors are present. Universities are absent, and no interaction among the three helices is documented.	The study analyzes livelihood impacts and policy-induced constraints in fisheries. It does not address innovation systems or co-production mechanisms.	The study does not meet Triple Helix criteria because it lacks government–university–industry interaction and does not analyze innovation system dynamics or collaborative structures.
SID-b439	Exclude	The study presents a scientific consensus on health impacts of food contact chemicals. It is not situated in the Philippine context and does not document interactions among government, universities, and industry.	The study synthesizes scientific evidence on chemical health risks for regulatory and advisory purposes. It does not address innovation systems or institutional collaboration.	The study does not meet Triple Helix criteria because it is non-empirical, lacks Philippine focus, and provides no evidence of government–university–industry interaction or innovation processes.

SID-b440	Exclude	The study examines PRIME-HRM implementation using cloud-based technology in government agencies. Government is the primary actor. Industry appears only as a technology provider, and universities are not involved in documented interaction or innovation collaboration.	The study addresses digital transformation and administrative modernization in public sector HR systems. It does not analyze innovation system structures or cross-sector coordination.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction and does not analyze innovation system dynamics. The analysis remains confined to intra-government implementation.
SID-b441	Exclude	The study focuses on the technical feasibility of an RFID-based parking system. It does not document interactions among government, universities, and industry actors in innovation processes or system development.	The study provides applied systems development insights in RFID-based parking implementation. It does not address institutional coordination, policy integration, or innovation system dynamics within the Philippine context.	The study does not meet Triple Helix criteria because it lacks empirical evidence of government–university–industry interaction, collaborative innovation processes, or innovation system governance structures. The analysis remains at the technical implementation level without cross-sector collaboration.
SID-b442	Exclude	The study focuses on algorithmic implementation and mobile application development for tourism navigation. It does not examine interactions among government, universities, and industry actors.	The study contributes to ICT application development in tourism navigation. It does not address innovation system structures, institutional coordination, or policy–industry–academe linkages.	The study does not meet Triple Helix criteria because it provides no evidence of government–university–industry interaction or innovation governance processes. The focus is limited to technical application development.
SID-b443	Exclude	The study examines government-imposed travel restriction orders and their socio-economic effects on residents. It does not involve universities or industry actors in innovation-related interactions.	The study provides evidence on governance impacts on livelihoods during crisis conditions. It does not analyze innovation systems, institutional collaboration, or knowledge production processes.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction and does not address innovation system dynamics. The analysis is limited to policy impact assessment.
SID-b444	Exclude	The study presents international perspectives on stem cell issues. It does not analyze interactions among government, universities, and industry actors within an innovation system.	The study provides conceptual and ethical discussion of biomedical research challenges. It does not address institutional coordination or innovation governance structures.	The study does not meet Triple Helix criteria because it is non-empirical, non-Philippine, and provides no evidence of government–university–industry interaction or innovation processes.
SID-b445	Exclude	The study focuses on regulatory practice and technical integration in meat inspection. It does not document interactions among government,	The study contributes to food safety regulation and modernization of inspection systems. It does not analyze	The study does not meet Triple Helix criteria because it lacks empirical evidence of government–university–industry interaction and does not examine

		universities, and industry actors in innovation processes.	institutional collaboration or innovation system dynamics.	innovation governance or co-production mechanisms.
SID-b446	Exclude	The study proposes integration of animal forensics into meat inspection. It does not present empirical evidence of collaboration among government regulators, universities, and industry actors.	The study provides a conceptual and policy-oriented framework for improving food safety systems. It does not analyze innovation system structures or inter-institutional coordination.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interaction and does not provide empirical analysis of innovation processes or collaborative governance.
SID-b447	Exclude	The study examines educational aspirations and challenges among Indigenous senior high school students. It does not analyze interactions among government, universities, and industry actors.	The study contributes to understanding educational inequality and Indigenous youth development. It does not address innovation systems, institutional coordination, or cross-sector collaboration.	The study does not meet Triple Helix criteria because it lacks government–university–industry interaction and does not analyze innovation-related processes or system-level dynamics.
SID-b448	Exclude	The study analyzes regional agriculture industry concentration and growth using Location Quotient and correlation analysis. It does not examine government–university–industry interactions, collaborative innovation processes, or institutional coordination within the Philippine innovation system.	The study contributes empirical evidence on regional industry structure and its relationship to agricultural gross value added. It addresses sectoral concentration and economic performance but does not analyze knowledge production, technology transfer, policy–academe–industry collaboration, or innovation governance mechanisms.	The study does not meet Triple Helix inclusion criteria because it lacks documented government–university–industry interaction, does not examine collaborative innovation processes, and does not analyze systemic innovation dynamics. Its focus remains at the level of regional industrial structure and economic performance without addressing cross-sectoral institutional linkages or innovation system coordination.
SID-b449	Exclude	The study examines ethical concerns arising from the COVID-19 pandemic in clinical care, public health, and health research within a global health framework. It does not analyze government–university–industry interactions, innovation processes, or institutional collaboration in the Philippine innovation system.	The study contributes normative and conceptual analysis of ethical tensions between public health measures and individual rights. It frames interdisciplinary and international ethical discourse but does not examine structural, relational, or functional dynamics of innovation systems, knowledge transfer mechanisms, or cross-sector collaboration.	The study does not meet Triple Helix inclusion criteria because it lacks empirical documentation of government–university–industry interaction, does not analyze collaborative innovation processes, and does not address innovation system governance or coordination. Its focus is ethical analysis rather than innovation system dynamics.
SID-b450	Exclude	The study analyzes consumer behavior and social media influence in tourism. It	It contributes to marketing and tourism studies but does not address institutional	The study lacks documented collaboration among government,

		does not examine government–university–industry interactions or innovation system processes.	coordination, knowledge transfer, or innovation governance.	university, and industry actors and does not engage with innovation system dynamics in the Philippine context. It does not meet Triple Helix inclusion criteria.
SID-b451	Exclude	The study examines social support and student development. It does not involve government–university–industry interactions in innovation contexts.	It contributes to educational psychology but does not analyze innovation systems, institutional coordination, or cross-sector collaboration.	The study does not document government–university–industry interaction or innovation-related processes. It fails to satisfy Triple Helix inclusion requirements.
SID-b452	Exclude	The study focuses on marketing strategies for start-ups without analyzing government–university–industry interactions within an innovation system.	It contributes to entrepreneurship and digital marketing literature but does not address structural or relational dynamics of innovation governance.	There is no documented collaboration among government, university, and industry actors and no analysis of innovation system coordination in the Philippine context. It does not meet inclusion criteria.
SID-b453	Exclude	The study examines consumer adoption of a fintech service but does not analyze interactions among government regulators, universities, and industry actors in innovation processes.	It advances understanding of technology adoption behavior but does not examine institutional coordination, policy–research linkages, or innovation governance.	Despite its Philippine focus, the study does not document government–university–industry collaboration or innovation system dynamics. It does not meet inclusion standards.
SID-b454	Exclude	The study presents a conceptual discussion of innovation and adaptation without empirical analysis of government–university–industry interactions.	It offers theoretical reflections but does not examine institutional structures, collaboration mechanisms, or system-level innovation dynamics.	Without documented collaboration among government, university, and industry actors in the Philippine innovation system, the study does not satisfy inclusion criteria.
SID-b455	Exclude	The study focuses on Philippine SMEs' innovation behavior using survey data (World Bank Enterprise Survey and SIAE). Government appears only as a policy context and through statistical references to support programs. Industry is represented by SMEs as standalone economic actors. Universities are not empirically present as actors, nor are there any documented interactions between government–university–industry. No relational exchanges among the three helices are observed.	The study contributes to understanding SME-level innovation performance in the Philippines, particularly product/process innovation, R&D spending patterns, and the role of firm size and financing access. It highlights structural constraints such as weak R&D investment and limited training, alongside policy gaps in government support for SMEs.	This study should be excluded because it does not provide empirical evidence of Triple Helix interactions. It contains SMEs and government policy context but lacks university involvement and any relational or interactional dynamics among the three helices.

SID-b456	Exclude	The study addresses enterprise management in smart city contexts but does not document government–university–industry interactions in the Philippine innovation system.	It contributes to management and smart city discourse but does not analyze institutional coordination or innovation governance structures in the Philippine setting.	The study lacks a Philippine innovation system focus and does not provide empirical evidence of government–university–industry collaboration. It does not meet inclusion criteria.
SID-b457	Exclude	The study evaluates a university food policy and student outcomes without analyzing interactions among government, industry, and university actors in innovation processes.	It offers institutional-level insights into campus nutrition policy and student behavior, not into innovation system dynamics or cross-sector collaboration.	Although empirical and Philippine-focused, it does not document government–university–industry interaction or innovation governance processes. It fails to meet inclusion standards.
SID-b458	Exclude	The study evaluates sustainability of local colleges and universities but does not document interactions with government and industry in innovation-related processes.	It contributes to higher education management and institutional sustainability rather than to innovation system structures or Triple Helix coordination.	Despite its empirical Philippine focus, it lacks documented government–university–industry collaboration and does not address innovation processes. It does not qualify for inclusion.
SID-b459	Exclude	The study examines instructional supervision and teacher professional development without involving industry actors or innovation-oriented government–university collaboration.	It contributes to educational leadership and teacher development, not to innovation system governance or inter-institutional collaboration.	The study does not document government–university–industry interactions or innovation-related processes. It does not meet inclusion criteria.
SID-b460	Exclude	The study discusses integrated ocean management and sustainability without documenting empirical interactions among government, university, and industry actors in the Philippine innovation system.	It contributes to environmental governance and policy discourse but does not analyze structural or relational dynamics of innovation systems.	The study lacks documented government–university–industry collaboration and does not examine innovation governance structures. It does not satisfy inclusion requirements.
SID-b461	Exclude	The study addresses global agroecological policy frameworks and does not analyze government–university–industry interactions within the Philippine innovation system.	It contributes to international biodiversity and sustainability policy debates rather than to innovation system structures, coordination mechanisms, or cross-sector collaboration.	The study lacks a Philippine focus and does not document collaboration among government, university, and industry actors. It does not meet Triple Helix inclusion criteria.
SID-b462	Exclude	The study evaluates gender and development integration within a higher education institution without examining interactions with government and industry in innovation processes.	It contributes to institutional planning and gender mainstreaming in higher education, not to innovation system dynamics or cross-sector collaboration.	Although Philippine-focused and empirical, it does not document government–university–industry interaction or innovation-related collaboration. It fails to satisfy inclusion criteria.

SID-b463	Exclude	The study focuses on technical animation and simulation methods and does not analyze government–university–industry interactions in an innovation system.	It contributes to digital media and animation technology development but not to institutional coordination or innovation governance structures.	The study lacks Philippine focus and does not document collaboration among government, university, and industry actors. It does not qualify for inclusion.
SID-b464	Exclude	The study proposes a model for education internationalization without empirical analysis of government–university–industry interactions.	It offers conceptual insights into sustainable education but does not examine innovation system structures or inter-institutional collaboration.	The study lacks Philippine focus and does not document government–university–industry collaboration. It does not meet inclusion criteria.
SID-b465	Exclude	The study examines instructional methods and teacher outcomes without involving industry actors or innovation-oriented government–university collaboration.	It contributes to pedagogy and teacher development rather than to innovation system governance or cross-sector coordination.	The study does not document government–university–industry interactions or innovation processes. It does not satisfy inclusion requirements.
SID-b466	Exclude	The study analyzes public cultural service provision in a Chinese city and does not examine government–university–industry interactions in the Philippine innovation system.	It contributes to public administration and cultural policy, not to innovation governance or institutional collaboration in the Philippine context.	The study lacks Philippine focus and documented collaboration among government, university, and industry actors. It does not meet inclusion criteria.
SID-b467	Exclude	The study focuses on technical design and implementation of an IoT-based system without analyzing government–university–industry interactions.	It contributes to engineering and automation knowledge but not to innovation system structures or inter-institutional coordination.	The study lacks Philippine focus and does not document collaboration among government, university, and industry actors. It does not qualify for inclusion.
SID-b468	Exclude	The study documents a university-level ICT infrastructure transition without analyzing interactions with government agencies or industry partners in innovation processes.	It provides institutional insights into campus network modernization, not into innovation system governance or cross-sector collaboration.	Despite being Philippine-focused, the study does not document government–university–industry interactions or innovation-related coordination. It does not meet inclusion criteria.
SID-b469	Conditionally include	The study documents a government-funded agricultural project implemented by Central Mindanao University with farmer-cooperators as industry actors. It demonstrates operational interaction among government, university, and industry within an agricultural innovation initiative.	It provides empirical evidence on determinants of cacao plantation establishment success, identifying land tenure as a key factor. The findings inform implementation strategies and beneficiary selection in government-supported agricultural extension programs.	The study is conditionally included because it provides clear empirical evidence of government–university–farmer interactions in a Philippine agricultural innovation setting; however, it does not demonstrate a fully integrated Triple Helix innovation system, as interactions are largely one-directional and extension-based rather than reciprocal or co-creative.

SID-b470	Exclude	The study analyzes market power in the Philippine rice industry without examining government–university–industry interactions in innovation processes.	It contributes to agricultural economics through analysis of market inefficiencies and price elasticity but does not address innovation system coordination or institutional collaboration.	The study lacks documented collaboration among government, university, and industry actors and does not situate its analysis within an innovation system framework. It does not meet inclusion criteria.
SID-b471	Exclude	The study examines curriculum implementation challenges among history teachers without analyzing government–university–industry interactions in innovation contexts.	It contributes to educational implementation and teacher development, not to innovation system governance or inter-institutional collaboration.	Although Philippine-focused and empirical, it does not document government–university–industry collaboration or innovation-related processes. It does not qualify for inclusion.
SID-b472	Exclude	The study analyzes parental decisions to vaccinate adolescents in a local high school and does not examine government–university–industry interactions in innovation processes.	It contributes to public health behavior and education research, not to innovation system structures or institutional collaboration.	Despite its Philippine empirical focus, it does not document collaboration among government, university, and industry actors or address innovation governance. It does not meet inclusion criteria.
SID-b473	Exclude	The study discusses sustainability and blue economy challenges at a conceptual or global level without empirical analysis of government–university–industry interactions.	It contributes to sustainability and policy discourse but does not examine structural or relational dynamics of innovation systems in the Philippine context.	The study lacks Philippine focus and does not document empirical collaboration among government, university, and industry actors. It does not satisfy inclusion requirements.
SID-b474	Exclude	The study examines job satisfaction among hospitality managers and does not analyze interactions among government, university, and industry actors in innovation contexts. No institutional collaboration or innovation system engagement is present.	The study contributes to hospitality management and human resource literature by assessing determinants of job satisfaction among managers in the sector. It focuses on workplace conditions and organizational factors rather than innovation processes or inter-institutional dynamics.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interactions, does not address innovation system governance, and does not examine collaborative processes across institutional spheres. Therefore, it is excluded from the Triple Helix qualitative meta-synthesis.
SID-b475	Exclude	The study examines job satisfaction among Filipino professionals working abroad and does not involve government, university, or industry interactions within an innovation system framework.	The study contributes to labor migration and organizational psychology by analyzing job satisfaction determinants among overseas Filipino professionals. It focuses on employment conditions and work experience rather than innovation or institutional collaboration.	The study does not meet Triple Helix criteria due to the absence of government–university–industry interactions, lack of innovation system relevance, and no evidence of institutional collaboration. It is therefore excluded from the meta-synthesis.

SID-b476	Exclude	The study discusses graduate employment in the ASEAN integration context but does not analyze empirical interactions among government, university, and industry actors in innovation processes.	The study contributes to employability and regional labor market integration literature by examining graduate employment outcomes and mobility within ASEAN economies.	The study does not meet Triple Helix criteria because it lacks documented cross-sector collaboration, does not analyze innovation systems, and does not include government–university–industry interaction. It is excluded from the meta-synthesis.
SID-b477	Exclude	The study examines journalism competence during the COVID-19 pandemic and does not analyze interactions among government, university, and industry actors in innovation systems.	The study contributes to media and communication studies by assessing journalism competencies and professional challenges during crisis conditions.	The study does not meet Triple Helix criteria because it lacks evidence of government–university–industry interactions, does not address innovation system dynamics, and does not involve institutional collaboration. Therefore, it is excluded.
SID-b478	Exclude	The study focuses on family structures and caregiving practices and does not involve government, university, or industry actors in innovation-related processes.	The study contributes to social work and family studies by examining caregiving arrangements and household dynamics within Filipino families.	The study does not meet Triple Helix criteria due to the absence of institutional interaction among government, university, and industry actors and lack of innovation system relevance. It is excluded from the meta-synthesis.
SID-b479	Exclude	The study examines community knowledge and compliance with fishery laws but does not analyze interactions among government, university, and industry actors in innovation processes.	The study contributes to environmental governance and fisheries compliance literature by assessing awareness and adherence to regulatory frameworks among coastal communities.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry interactions, does not analyze innovation systems, and does not address collaborative institutional dynamics. It is excluded from the meta-synthesis.
SID-b480	Exclude	The study examines knowledge and attitudes toward sustainable Pili development among teachers and students and does not document interactions with industry or government actors in innovation processes.	The study contributes to sustainability education research by assessing awareness, knowledge, and behavioral intentions related to Pili development.	The study does not meet Triple Helix criteria due to the absence of government–university–industry interactions and lack of innovation system analysis or institutional collaboration. Therefore, it is excluded from the meta-synthesis.
SID-b481	Exclude	The study examines antimicrobial use practices among animal health workers and retailers in Cambodia and does not	The study contributes to public and animal health behavior research and does not address innovation governance or institutional collaboration.	The study lacks Philippine focus and does not document government–university–industry interactions, innovation system processes, or collaborative structures; it

		analyze government–university–industry interactions in innovation systems.		therefore does not meet Triple Helix inclusion criteria.
SID-b482	Exclude	The study examines farmers’ pesticide knowledge and practices and does not document interactions among government agencies, universities, and industry actors in innovation processes.	The study contributes to agricultural health and safety literature and does not address innovation system structures or institutional collaboration.	The study lacks documented government–university–industry interactions and does not engage with innovation governance or system dynamics; it is excluded.
SID-b483	Exclude	The study examines health knowledge and behaviors among university students and does not analyze government–university–industry interactions in innovation processes.	The study contributes to public health education literature and does not address innovation system governance or institutional collaboration.	The study does not document government–university–industry interactions or innovation-related processes and does not meet inclusion criteria.
SID-b484	Exclude	The study focuses on technical design methods for urban wetland parks and does not analyze government–university–industry interactions in innovation systems.	The study contributes to landscape architecture and BIM methodology and does not address institutional or relational dynamics of innovation governance.	The study lacks Philippine focus and does not document government–university–industry interactions; it does not meet Triple Helix criteria.
SID-b485	Exclude	The study examines leadership and employee engagement in MSMEs and does not analyze government–university–industry interactions in innovation-related contexts.	The study contributes to organizational behavior and SME management literature and does not address innovation system governance or institutional collaboration.	The study does not document government–university–industry interactions or innovation processes and does not meet inclusion criteria.
SID-b486	Exclude	The study discusses learning, technology, and sustainability conceptually and does not analyze empirical government–university–industry interactions.	The study contributes to educational transformation discourse and does not address innovation system governance or institutional collaboration.	The study lacks Philippine focus and does not document government–university–industry interactions; it does not meet inclusion criteria.
SID-b487	Exclude	The study examines leisure patterns among internally displaced families and does not involve government–university–industry interactions in innovation processes.	The study contributes to social welfare and displacement studies and does not address innovation system governance or institutional collaboration.	The study lacks documented government–university–industry interactions and does not engage with innovation dynamics; it does not meet inclusion criteria.
SID-b488	Exclude	The study examines tourist expectations and experiences at heritage sites and does not analyze government–university–industry interactions in innovation processes.	The study contributes to tourism management and heritage studies and does not address innovation system governance or institutional collaboration.	The study lacks documented government–university–industry interactions and does not address innovation dynamics; it does not meet inclusion criteria.

SID-b489	Exclude	The study discusses UAV applications in public health at a conceptual or global level and does not provide empirical analysis of government–university–industry interactions.	The study contributes to technology foresight and public health innovation discourse and does not address structural or relational dynamics of a specific innovation system.	The study lacks Philippine focus and does not document empirical government–university–industry interactions; it does not meet inclusion criteria.
SID-b490	Exclude	The study examines interpersonal communication, work values, and job commitment and does not analyze government–university–industry interactions in innovation contexts.	The study contributes to organizational psychology and workforce studies and does not address innovation system governance or institutional collaboration.	The study does not document government–university–industry interactions or innovation processes and does not meet inclusion criteria.
SID-b491	Exclude	The study reflects on pandemics and literature without empirical analysis of government–university–industry interactions.	The study contributes to comparative literature and social reflection discourse and does not address innovation system governance or institutional collaboration.	The study lacks Philippine focus and does not document government–university–industry interactions or innovation system processes; it does not meet inclusion criteria.
SID-b492	Exclude	The study examines life status and demographics of association members during COVID-19 and does not analyze government–university–industry interactions in innovation processes.	The study contributes to social impact assessment during pandemics and does not address innovation system governance or institutional collaboration.	The study lacks documented government–university–industry interactions and does not engage with innovation system dynamics; it does not meet inclusion criteria.
SID-b493	Exclude	The study examines police training experiences and performance and does not involve university or industry actors in innovation-related interactions.	The study contributes to policing and training literature and does not address innovation system governance or institutional collaboration.	The study does not document government–university–industry interactions or innovation processes and does not meet inclusion criteria.
SID-b494	Exclude	The study focuses on local government actions in pandemic management and does not analyze interactions with universities or industry actors in innovation processes.	The study contributes to governance capacity and crisis response analysis and does not address innovation system structures or Triple Helix dynamics.	The study is Philippine-focused and empirical but does not document government–university–industry interactions related to innovation; it does not meet inclusion criteria.
SID-b495	Exclude	The study assesses LGU service delivery and does not analyze interactions among government, universities, and industry in innovation-related contexts.	The study contributes to public administration and service delivery evaluation and does not address innovation system governance or institutional collaboration.	The study lacks documented government–university–industry interactions and does not engage with innovation dynamics; it does not meet inclusion criteria.
SID-b496	Exclude	The study assesses LGU service delivery and does not analyze interactions among	The study contributes to public administration and service delivery evaluation and does not address	The study lacks documented government–university–industry interactions and does not engage with

		government, universities, and industry in innovation-related contexts.	innovation system governance or institutional collaboration.	innovation dynamics; it does not meet inclusion criteria.
SID-b497	Exclude	The study focuses on technical forecasting models for electricity markets and does not analyze government–university–industry interactions in innovation systems.	The study contributes to energy systems modeling and AI methods and does not address institutional or relational dynamics of innovation governance.	The study lacks Philippine focus and does not document government–university–industry interactions; it does not meet inclusion criteria.
SID-b498	Exclude	The study analyzes online news photographs using semiotics and does not involve government–university–industry interactions in innovation contexts.	The study contributes to media and communication studies and does not address innovation system governance or institutional collaboration.	The study lacks Philippine focus and does not document government–university–industry interactions; it does not meet inclusion criteria.
SID-b499	Exclude	The study explores COVID-19 future scenarios across multiple sites and does not analyze government–university–industry interactions in innovation systems, particularly in the Philippine context.	The study contributes to scenario planning and crisis foresight literature and does not address innovation system governance or institutional collaboration.	The study lacks Philippine focus and does not document empirical government–university–industry interactions; it does not meet inclusion criteria.
SID-b500	Exclude	The study examines budgeting and decision-making among low-income earners and does not analyze government–university–industry interactions in innovation-related contexts.	The study contributes to household economics and pandemic impact research and does not address innovation system governance or institutional collaboration.	The study is Philippine-focused and empirical but does not document government–university–industry interactions or innovation system processes; it does not meet inclusion criteria.
SID-b501	Exclude	The study examines stress assessment among IT employees working from home using machine learning methods. It does not analyze government–university–industry interactions or innovation system dynamics.	The study provides empirical insights into employee well-being and occupational stress under remote work conditions during COVID-19.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry collaboration, innovation processes, or institutional interaction. It focuses exclusively on individual-level occupational outcomes without engagement in innovation systems.
SID-b502	Exclude	The study analyzes macroeconomic determinants of public debt without examining government–university–industry interactions or innovation system linkages.	The study contributes to fiscal and macroeconomic policy analysis through examination of public debt dynamics.	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or innovation system relationships among government, universities, and industry.

SID-b503	Exclude	The study examines workplace ergonomics and job dissatisfaction among field technicians without analyzing Triple Helix interactions or innovation systems.	The study provides evidence on occupational health risks and organizational factors influencing employee dissatisfaction during COVID-19.	The study does not meet Triple Helix criteria because it lacks evidence of government–university–industry interaction or innovation-related collaboration.
SID-b504	Exclude	The study develops briquettes from agricultural waste without analyzing government–university–industry collaboration or innovation system governance.	The study contributes to waste valorization and alternative fuel development through material processing research.	The study does not meet Triple Helix criteria because it does not document institutional collaboration, co-creation processes, or innovation system interactions among government, universities, and industry.
SID-b505	Exclude	The study is a clinical investigation of fracture management and does not examine government–university–industry interactions or innovation systems.	The study contributes to clinical orthopedic practice and patient treatment outcomes.	The study does not meet Triple Helix criteria because it does not analyze institutional collaboration or innovation system dynamics involving government, universities, and industry.
SID-b506	Exclude	The study examines management practices and productivity in local eateries without analyzing government–university–industry interactions.	The study provides evidence on operational challenges and productivity changes in small food enterprises during COVID-19.	The study does not meet Triple Helix criteria because it lacks documented cross-sector collaboration or innovation system engagement among government, universities, and industry.
SID-b507	Exclude	The study examines mangrove conservation and ecotourism development in Indonesia without explicitly analyzing government–university–industry interactions.	The study contributes to environmental management and sustainable tourism development literature.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or innovation system relationships among government, universities, and industry, and it is not Philippine-focused.
SID-b508	Exclude	The study analyzes land cover change and hydrological modeling in Agusan Marsh without examining Triple Helix interactions or innovation systems.	The study provides environmental and geospatial analysis relevant to ecosystem dynamics and flood risk assessment.	The study does not meet Triple Helix criteria because it lacks evidence of cross-sector collaboration or innovation-related institutional interaction among government, universities, and industry.
SID-b509	Exclude	The study examines student demand for online learning within a university context without analyzing government–university–industry innovation interactions.	The study provides insights into student behavior and demand patterns during the transition to online learning.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or innovation system processes involving government, universities, and industry.

SID-b510	Exclude	The study examines marketing practices of micro-retailers and proposes an extension program without analyzing government–university–industry interactions.	The study identifies marketing challenges and extension needs among small retail enterprises.	The study does not meet Triple Helix criteria because it lacks documented cross-sector collaboration, innovation processes, or institutional linkages among government, universities, and industry.
SID-b511	Exclude	The study compares ICT skill requirements of industry with academe (SUCs and HEIs) in the Philippines using survey data. Government is only indirectly referenced through CHED, and there is no explicit analysis of government–university–industry interactions or Triple Helix dynamics, but rather a focus on skills matching and employability.	Provides quantitative assessment of ICT skill requirements and competency gaps between academe and industry, highlighting curriculum misalignment and employability demands for BSIT graduates in the Philippines.	Exclude because it lacks explicit Triple Helix interaction analysis and focuses on curriculum–industry skills matching, with only indirect government reference (CHED). Actors are also generalized and not clearly specified or mapped, making it unsuitable for THIM construction.
SID-b512	Exclude	The study assesses disaster resilience and sustainable coastal tourism in Guimaras, Philippines without analyzing government–university–industry interactions or innovation system structures.	The study contributes to understanding coastal resilience planning and sustainable tourism development in small island contexts.	The study does not meet Triple Helix criteria because it lacks documented collaboration or innovation system interactions among government, universities, and industry.
SID-b513	Exclude	The study analyzes illicit tobacco trade governance across countries without examining Philippine government–university–industry interactions or innovation systems.	The study evaluates regulatory capacity and governance approaches in controlling illicit tobacco trade.	The study does not meet Triple Helix criteria because it does not document innovation system dynamics or cross-sector collaboration among government, universities, and industry in the Philippines.
SID-b514	Exclude	The study examines employee accountability and organizational health without analyzing government–university–industry interactions or innovation systems.	The study contributes to organizational behavior literature by examining relationships between working conditions, accountability, and organizational health.	The study does not meet Triple Helix criteria because it lacks evidence of cross-sector collaboration or innovation system engagement.
SID-b515	Exclude	The study analyzes political discourse in pandemic governance without examining government–university–industry interactions or innovation systems in the Philippines.	The study contributes to understanding political communication strategies and public health discourse during COVID-19.	The study does not meet Triple Helix criteria because it does not document innovation-related collaboration or institutional interaction among government, universities, and industry.
SID-b516	Exclude	The essay analyzes Philippine theater representations of labor migration without	The essay provides cultural and critical analysis of migrant labor narratives and	The study does not meet Triple Helix criteria because it does not provide

		examining government–university–industry interactions or innovation system dynamics.	performative representations in Philippine theater.	empirical evidence of institutional collaboration or innovation system interactions among government, universities, and industry.
SID-b517	Exclude	The study synthesizes epidemiologic and vaccine surveillance literature without examining government–university–industry interactions or innovation systems.	The study identifies regional surveillance gaps, immunization patterns, and barriers to vaccine uptake in the Asia-Pacific region.	The study does not meet Triple Helix criteria because it lacks empirical evidence of cross-sector collaboration or innovation system dynamics involving government, universities, and industry.
SID-b518	Exclude	The study reviews mental health education needs of Filipino seafarers without analyzing government–university–industry interactions or innovation systems.	The study identifies thematic gaps in seafarer mental health literature and highlights education and training needs.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or innovation system relationships among government, universities, and industry.
SID-b519	Exclude	The study analyzes metaphor use in presidential rhetoric without examining government–university–industry interactions or innovation systems.	The study examines ideological framing and metaphorical structures in Philippine presidential speeches.	The study does not meet Triple Helix criteria because it does not analyze cross-sector collaboration or innovation system dynamics involving government, universities, and industry.
SID-b520	Exclude	The study focuses on microbial source tracking for water quality assessment without analyzing government–university–industry interactions in innovation systems.	The study demonstrates application of molecular methods for identifying fecal contamination sources in environmental monitoring.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or innovation system dynamics among government, universities, and industry.
SID-b521	Exclude	The study examines microfinance services and their relationship to income steadiness in small retail businesses within the context of COVID-19. It references government support in broad terms but does not document government–university–industry interactions, collaborative financing structures, or institutional innovation linkages.	The study identifies a positive relationship between microfinance access and income stability among microenterprises. It contributes empirical evidence on business performance outcomes and financial resilience under pandemic conditions, focusing on firm-level economic effects rather than system-level innovation processes.	The study does not meet Triple Helix criteria because it lacks empirical evidence of government–university–industry interactions. Government is not analyzed as part of a collaborative innovation system, universities are not involved as research or knowledge partners, and industry engagement is limited to microenterprise recipients of financial services. No cross-sector co-production, policy–research–industry linkage, or innovation system dynamics are documented.

SID-b522	Exclude	The study investigates biomonitoring of informal e-waste recyclers using micronuclei frequency as a genotoxicity indicator. It does not examine government–university–industry interactions or institutional collaboration in environmental health innovation systems.	The study generates empirical evidence on occupational exposure risks and genetic damage associated with informal e-waste recycling activities. It contributes to environmental health surveillance and occupational risk assessment through biomarker analysis.	The study does not meet Triple Helix criteria because it does not document collaboration or interaction among government agencies, universities, and industry actors. It does not analyze co-developed interventions, policy–research integration, or innovation system mechanisms linking the three sectors. The contribution remains confined to environmental health assessment without systemic innovation dynamics.
SID-b523	Exclude	The study focuses on microwave-assisted extraction of pectin from agricultural waste using laboratory-based optimization techniques. It does not examine government–university–industry interactions or innovation system engagement.	The study provides optimized extraction parameters and characterizes pectin yield and physicochemical properties. It contributes technical knowledge to food science and bioresource utilization.	The study does not meet Triple Helix criteria because it lacks documented collaboration among government, universities, and industry. Universities are the sole active research actors, while government and industry roles are absent in terms of policy integration, commercialization pathways, or co-innovation processes. No innovation system interactions are analyzed.
SID-b524	Exclude	The study develops a mobile incident reporting system evaluated within a local government operational context. It does not analyze structured government–university–industry interactions or innovation partnerships.	The study assesses system functionality and user feedback for a mobile reporting application that improves incident communication efficiency through geolocation, alerts, and multimedia reporting.	The study does not meet Triple Helix criteria because it lacks documented collaboration among government, universities, and industry actors. Local government participation is limited to system usage, not co-development or innovation governance. Universities and industry partners are not engaged in structured innovation processes or technology co-creation.
SID-b525	Exclude	The study conducts statistical climate modeling of temperature trends in a Philippine province using university-based research. It does not examine government–university–industry interactions or climate innovation systems.	The study identifies increasing temperature trends using stochastic modeling and provides quantitative projections relevant to climate variability and environmental planning.	The study does not meet Triple Helix criteria because it does not document collaboration or interaction among government, universities, and industry. Government use is limited to potential policy relevance, without institutional engagement. No innovation system

				coordination, joint climate services, or cross-sector knowledge production is present.
SID-b526	Exclude	The study applies IF-DEMATEL modeling to prioritize COVID-19 relaxation protocols using expert input. It does not analyze government–university–industry collaboration or innovation system interactions.	The study produces a structured prioritization model for pandemic policy measures, identifying key protocols for economic reopening and public health management.	The study does not meet Triple Helix criteria because it lacks empirical evidence of structured interaction among government, universities, and industry. Expert consultation does not constitute institutional collaboration or innovation co-production. No cross-sector governance or innovation system processes are documented.
SID-b527	Exclude	The study develops a fuzzy modeling framework for dengue incidence analysis based on expert judgment. It does not examine government–university–industry interactions or collaborative public health innovation systems.	The study identifies causal relationships among social, environmental, and institutional determinants of dengue outbreaks using fuzzy multi-criteria decision-making methods.	The study does not meet Triple Helix criteria because it lacks documented collaboration among government, universities, and industry. Institutional actors are used as analytical inputs rather than interacting innovation partners. No co-developed surveillance systems or cross-sector health innovation processes are present.
SID-b528	Exclude	The study extends a P-graph causality mapping framework using a case study of the Bhopal disaster. It does not analyze government–university–industry interactions in innovation systems.	The study advances a methodological framework for modeling complex causal networks and identifying feedback structures in socio-technical systems.	The study does not meet Triple Helix criteria because it lacks empirical evidence of government–university–industry interaction. It focuses on methodological system modeling without analyzing institutional collaboration, innovation governance, or cross-sector knowledge production.
SID-b529	Exclude	The study examines workplace values and professional ethics among accounting professionals. It does not analyze government–university–industry interactions or innovation system structures.	The study identifies relationships between workplace values, ethical considerations, and professional conduct, including moderating effects of workforce generation.	The study does not meet Triple Helix criteria because it focuses on individual and organizational behavioral constructs rather than institutional innovation systems. Government, universities, and industry are not analyzed as interacting actors in a collaborative innovation framework.

SID-b530	Exclude	The study applies molecular genotyping to identify sources of fecal contamination in a watershed system. It does not examine government–university–industry interactions in environmental innovation systems.	The study identifies microbial contamination sources and provides evidence for environmental and public health risk management in a lake ecosystem.	The study does not meet Triple Helix criteria because it lacks documented collaboration among government, universities, and industry. It presents environmental microbiology findings without analyzing institutional partnerships, innovation governance, or cross-sector knowledge integration.
SID-b531	Exclude	The study applies multi-sensor remote sensing (Landsat 8 and Sentinel-1) and GIS methods to analyze agricultural land conversion trends. It does not examine government–university–industry interactions or innovation system collaboration in land use planning or environmental governance.	The study develops a high-accuracy classification framework (~96%) for detecting agri-urban land conversion in Cavite Province. It provides technical advancement in spatial analysis and environmental monitoring for land-use change detection.	The study does not meet Triple Helix criteria because it lacks documented collaboration or interaction among government, universities, and industry actors. It presents a methodological contribution in geospatial analysis without analyzing cross-sector co-production, policy–research–industry integration, or innovation system dynamics.
SID-b532	Exclude	The study analyzes labor market determinants of the gender wage gap using econometric modeling of monopsony power and labor supply elasticity. It does not examine government–university–industry interactions or institutional collaboration in labor market innovation systems.	The study provides empirical evidence that labor market monopsony and mobility constraints contribute to wage disparities in the Philippines, particularly affecting women’s earnings and employment flexibility.	The study does not meet Triple Helix criteria because it does not document structured interactions among government, universities, and industry. It focuses on labor economics without analyzing cross-sector collaboration, policy co-production, or innovation system relationships.
SID-b533	Exclude	The study conducts morphological characterization of abaca plants for agronomic evaluation. It does not examine government–university–industry collaboration or agricultural innovation systems.	The study provides empirical measurements of abaca plant traits (height, leaf count, pseudostem size) that support crop selection and agronomic profiling for fiber production.	The study does not meet Triple Helix criteria because it contains no evidence of collaboration or interaction among government, universities, and industry actors. It is limited to plant science characterization without innovation system engagement or cross-sector coordination.
SID-b534	Exclude	The study examines employee motivation and performance in work-from-home arrangements within a single organization. It does not analyze government–	The study identifies demographic and motivational factors influencing employee performance, job satisfaction, and	The study does not meet Triple Helix criteria because it does not document cross-sector collaboration or institutional interaction among government,

		university–industry interactions or workplace innovation systems.	engagement in remote work settings during the COVID-19 period.	universities, and industry. Its scope is limited to organizational-level human resource analysis without innovation system relevance.
SID-b535	Exclude	The study investigates dissemination of physical activity and health guidelines in early childhood education settings. It does not analyze government–university–industry innovation interactions.	The study identifies stakeholder-level factors affecting guideline uptake, including parental engagement, curriculum constraints, and social conditions influencing health education implementation.	The study does not meet Triple Helix criteria because it does not document structured collaboration among government, universities, and industry actors. It focuses on stakeholder engagement in education dissemination rather than innovation system dynamics or institutional co-production.
SID-b536	Exclude	The study includes university actors (female academics) and government-adjacent institutions (e.g., policy frameworks, SDG implementation structures, and references to Philippine HE policy environment). There are also limited implicit industry/community interfaces, mainly through public engagement, consultation with municipal institutions, and disaster-response-related activities. However, no explicit government–university–industry innovation interactions are empirically traced as a system of co-production or innovation exchange. Government appears as a policy/contextual actor rather than an interacting innovation partner, and industry is largely absent or only indirectly referenced (e.g., engineering consultation contexts without structured TH interaction).	The study contributes to understanding structural and relational constraints within higher education affecting university public engagement, especially gendered barriers limiting academic participation in societal outreach. It highlights institutional and cultural constraints in Philippine (and Iranian) universities, including workload imbalance, weak recognition of engagement work, and fragmented implementation of the “third mission.” It also exposes how systemic gendered norms restrict the translation of academic expertise into societal impact, but it does not map innovation-system dynamics or THIM-style actor integration.	Exclude because the study does not provide explicit or analytically structured government–university–industry interaction in an innovation system context, nor does it document innovation processes, outputs, or relational TH dynamics. Its focus is on gendered academic labor and public engagement rather than Triple Helix innovation relations, making it theoretically adjacent but not analytically eligible under strict THIM criteria.
SID-b537	Exclude	The article synthesizes policy strategies for noncommunicable disease (NCD) management across ASEAN countries. It proposes multisectoral approaches but	The study identifies gaps in NCD prevention and management and proposes system-level strategies such as strengthened primary care, workforce capacity building, and public–private	The study does not meet Triple Helix criteria because it lacks empirical evidence of structured collaboration among government, universities, and industry. It provides policy

		does not present empirical government–university–industry interaction analysis.	partnerships for regional health improvement.	recommendations without documenting innovation system interactions or co-production mechanisms.
SID-b538	Exclude	The study examines determinants of CRM system adoption within organizations using TAM and TOE frameworks. It does not analyze government–university–industry interactions or innovation ecosystem collaboration.	The study identifies organizational, technological, and environmental determinants of CRM adoption and demonstrates strong explanatory power of the model in predicting system uptake.	The study does not meet Triple Helix criteria because it focuses on intra-organizational technology adoption without documenting cross-sector collaboration or innovation system dynamics involving government, universities, and industry.
SID-b539	Exclude	The study analyzes Musikang Bayan as a cultural and ideological expression of Filipino socio-political narratives. It does not examine government–university–industry interactions or innovation system structures.	The study interprets nationalist and progressive dimensions of Filipino music, linking cultural production to social movements and political economy of artistic expression.	The study does not meet Triple Helix criteria because it does not document institutional collaboration or interaction among government, universities, and industry. Its focus is cultural analysis rather than innovation system dynamics.
SID-b540	Exclude	The study designs and evaluates an automated ventilation system for energy-efficient buildings. It does not examine government–university–industry collaboration or innovation system processes.	The study demonstrates technical optimization of hybrid ventilation systems combining natural and mechanical airflow to reduce energy consumption in buildings.	The study does not meet Triple Helix criteria because it lacks evidence of structured collaboration among government, universities, and industry actors. It is a technical engineering study without analysis of cross-sector innovation, policy integration, or commercialization pathways.
SID-b541	Exclude	The study focuses on technical engineering design for energy-efficient building ventilation. It is university-led and does not document government or industry participation. It does not analyze government–university–industry interactions, institutional collaboration, or innovation system processes.	The study demonstrates how mixed-mode ventilation with automation reduces energy consumption and operational costs in tertiary buildings. It provides simulation-based design evidence for sustainable building optimization.	The study does not meet Triple Helix criteria. It lacks documented government–university–industry interactions, does not examine collaborative innovation processes, and does not present cross-sector institutional linkages. Its contribution is confined to technical system optimization without innovation system dynamics.
SID-b542	Exclude	The study examines industry compliance with pandemic safety protocols in the Philippine construction sector. It does not analyze government–university–industry collaboration or innovation system	The study provides empirical evidence on construction firms’ compliance behavior and adaptation to health and safety protocols during COVID-19, including	The study does not document government–university–industry interactions or collaborative innovation mechanisms. It focuses on industry-level compliance behavior rather than cross-

		interactions. Government involvement is limited to regulatory compliance context.	associations with firm size and workforce characteristics.	sector innovation processes or institutional coordination.
SID-b543	Exclude	The study examines government construction project compliance with health and safety standards under pandemic conditions. It does not analyze government–university–industry interactions or collaborative innovation processes.	The study details government construction sector responses to COVID-19 safety requirements, including implementation of workplace health protocols and operational adjustments.	The study does not present government–university–industry collaboration or innovation system dynamics. It focuses exclusively on internal government project management and regulatory compliance.
SID-b544	Exclude	The study analyzes corporate sustainability practices and their relationship to peace and development outcomes. It does not examine structured government–university–industry interactions or innovation system linkages.	The study links corporate economic development, citizenship behavior, and legal compliance to broader sustainability and peace outcomes.	The study does not document government–university–industry collaboration or innovation processes. It focuses on firm-level sustainability behavior without cross-sector institutional interaction.
SID-b545	Exclude	The study examines the calamansi value chain involving agricultural producers and market intermediaries. It does not analyze government–university–industry collaboration or innovation system processes.	The study identifies agribusiness constraints such as input costs, price volatility, and trader dominance within the calamansi marketing system.	The study does not provide empirical evidence of government–university–industry interactions or structured innovation collaboration. It focuses on value chain dynamics without institutional innovation system analysis.
SID-b546	Exclude	The study examines nurses’ awareness and participation in the Continuing Professional Development (CPD) law. It does not analyze government–university–industry interactions or innovation processes.	The study identifies knowledge gaps in CPD implementation and describes nurses’ awareness and participation in professional development activities.	The study does not document cross-sector collaboration or institutional innovation processes. It focuses on individual professional compliance behavior rather than Triple Helix interaction dynamics.
SID-b547	Exclude	The study synthesizes global environmental changes during COVID-19 lockdowns. It does not analyze government–university–industry interactions or innovation system governance.	The study compiles evidence on reductions in pollution and environmental improvements during lockdown periods across multiple countries.	The study does not provide empirical evidence of government–university–industry collaboration or innovation system processes. It is a descriptive environmental synthesis without institutional interaction analysis.
SID-b548	Exclude	The study examines occupational health effects of pesticide exposure among Filipino farmers. It does not analyze government–university–industry	The study provides empirical evidence of health outcomes associated with pesticide exposure, including	The study does not document cross-sector collaboration or innovation processes among government, university, and industry actors. It focuses on

		interactions or innovation system linkages.	neurological, respiratory, and cardiovascular symptoms.	occupational health outcomes rather than institutional interaction systems.
SID-b549	Exclude	The study reviews occupational safety practices and policies in small-scale mining. It does not analyze government–university–industry collaboration or innovation system dynamics.	The study synthesizes occupational safety conditions, legislative frameworks, and mitigation practices in small-scale mining communities.	The study does not provide empirical evidence of government–university–industry interactions or co-innovation processes. It focuses on policy review and occupational conditions without institutional collaboration analysis.
SID-b550	Exclude	The study shows Philippine government–community–technology interactions through the One Health Worker (OHW) program and mHealth surveillance system. Universities are indirectly involved via training and conceptual support, while industry provides enabling infrastructure (mHealth platforms, cloud systems, telecoms). However, these roles do not form a structured Triple Helix innovation system, as there is no evidence of co-production, joint R&D, or innovation exchange; instead, the configuration reflects a government-led public health delivery system with supportive university and industry roles.	The study highlights how digital tools are used to strengthen integrated human–animal–environment surveillance in rural health systems. It reveals structural gaps in workforce capacity and sectoral fragmentation, and shows how centralized digital platforms attempt to coordinate dispersed health domains without establishing mature innovation-system dynamics.	Exclude because it lacks explicit Triple Helix innovation interactions or co-creation between government, universities, and industry. It focuses on health system implementation and surveillance infrastructure rather than innovation system dynamics required under strict THIM criteria.
SID-b551	Exclude	The study analyzes determinants of successful online distance learning, including technology readiness, attitudes, and institutional preparedness during the pandemic. It does not examine government–university–industry interactions or structured innovation collaborations. No cross-sector innovation system dynamics are documented.	The study provides empirical evidence on online learning experiences among educators, students, and administrators, identifying key barriers such as digital access limitations, connectivity issues, and institutional readiness constraints.	The study does not meet Triple Helix criteria because it lacks documented government–university–industry collaboration and does not analyze innovation system processes. Its focus is limited to educational delivery and institutional readiness without cross-sector innovation interaction.
SID-b552	Exclude	The study examines the relationship between online gaming addiction and depression among youth. It does not analyze government–university–industry	The study identifies statistical associations between gaming addiction and depressive symptoms, contributing	The study does not provide evidence of cross-sector collaboration or innovation processes involving government, universities, and industry. It focuses on

		interactions or innovation system dynamics.	evidence relevant to youth mental health and behavioral risk patterns.	individual behavioral outcomes rather than institutional or innovation system dynamics.
SID-b553	Exclude	The study reviews COVID-19 disruptions in food supply chains, including logistics, labor, and production challenges. It does not examine government–university–industry collaboration or innovation system interactions.	The study synthesizes evidence on supply chain disruptions and resilience challenges affecting food production, processing, and distribution systems during the pandemic.	The study does not document government–university–industry interactions or co-innovation processes. It is a thematic literature review without empirical evidence of cross-sector innovation system dynamics.
SID-b554	Exclude	The editorial discusses coffee, tea, and tourism sector linkages. It does not present empirical evidence of government–university–industry interactions or innovation system processes.	The piece provides conceptual discussion of market opportunities and challenges in integrating beverage culture with tourism development.	The article is not empirical research and does not document structured collaboration among government, universities, and industry. It lacks evidence of innovation system interactions and does not qualify for inclusion.
SID-b555	Exclude	The study reviews swamp buffalo genomics and breeding programs, referencing institutional involvement such as research agencies. It does not analyze structured government–university–industry collaboration.	The study synthesizes advances in genomic selection and breeding strategies, highlighting constraints in research capacity and opportunities for livestock productivity improvement.	The study does not present empirical evidence of coordinated government–university–industry innovation processes. Institutional references are descriptive and not analyzed as collaborative innovation systems.
SID-b556	Exclude	The study analyzes economic strategies for residential solar PV adoption. It does not examine government–university–industry interactions or structured innovation partnerships.	The study evaluates investment timing and payment schemes for solar PV adoption and identifies conditions that improve affordability and uptake.	The study does not document cross-sector collaboration or innovation system mechanisms involving government, universities, and industry. It is a technical economic analysis without Triple Helix interaction evidence.
SID-b557	Exclude	The entry consists of conference abstracts in obstetrics and gynecology. It does not examine government–university–industry interactions or innovation system collaboration.	The abstracts provide brief clinical research updates across maternal and reproductive health topics.	The material does not provide full empirical studies or evidence of cross-sector collaboration. It lacks documentation of government–university–industry interactions and does not meet Triple Helix inclusion requirements.
SID-b558	Exclude	The study examines academic perceptions of local government DRRM implementation. It does not analyze government–university–industry	The study assesses perceived effectiveness of DRRM implementation and identifies strengths and gaps in local	The study does not document structured cross-sector collaboration or innovation processes involving government, universities, and industry. It focuses on

		collaboration or innovation system processes.	government disaster risk reduction practices.	evaluative perceptions rather than innovation system interactions.
SID-b559	Exclude	The study analyzes organizational knowledge and performance within a government agency. It does not examine government–university–industry interactions or innovation system collaboration.	The study examines how organizational knowledge influences work performance in a public agricultural research and extension institution.	The study does not provide evidence of cross-sector collaboration or innovation system dynamics. It focuses on internal government organizational processes without Triple Helix interaction analysis.
SID-b560	Exclude	The study examines organizational resilience and change management within a government agency. It does not analyze government–university–industry interactions or innovation system processes.	The study identifies relationships between organizational resilience, change management factors, and management effectiveness within a government institution.	The study does not document cross-sector collaboration or innovation processes involving universities or industry. It is confined to internal government organizational dynamics and does not meet Triple Helix inclusion criteria.
SID-b561	Exclude	The study focuses on ecological assessment of plant diversity in urban parks using quadrat-based biodiversity surveys. It contains no empirical evidence of government–university–industry interactions, including collaborative urban biodiversity governance, policy–research integration, or private sector participation in urban green space innovation.	It provides systematic documentation of urban park flora, reporting 100 species with dominance of exotic species and calculating ecological indices (Shannon, Simpson) relevant to urban ecological assessment and planning.	Although empirically robust and useful for urban ecology and conservation planning, the study does not analyze or document structured government–university–industry collaboration or innovation system dynamics. It does not meet Triple Helix inclusion criteria.
SID-b562	Exclude	The study examines teacher experiences in modular distance learning and does not empirically investigate government–university–industry interactions, including curriculum co-design, ed-tech partnerships, or cross-sector capacity-building arrangements.	It identifies instructional challenges and coping strategies such as time management, communication with parents and students, and professional reskilling during pandemic-imposed modular education.	Despite providing empirical insights into educational adaptation in the Philippines, the study does not document or analyze structured cross-sector collaboration or innovation system processes involving government, universities, and industry. It does not satisfy Triple Helix criteria.
SID-b563	Exclude	The study examines vocational education development in China and does not empirically analyze structured government–university–industry interaction mechanisms such as co-innovation partnerships, joint governance	It provides a descriptive synthesis of China’s TVET system, including policy frameworks, institutional structures, pedagogical practices, and systemic challenges such as regional disparities and school–enterprise separation.	Although it includes contextual discussion of industry involvement and policy environments, it does not empirically map or analyze Triple Helix collaboration or innovation system

		arrangements, or formalized collaboration networks.		dynamics. It is therefore excluded from a Triple Helix-focused synthesis.
SID-b564	Exclude	The study on marine mammal research effort in the Philippines does not empirically analyze government–university–industry collaboration, conservation partnerships, or cross-sector knowledge production systems.	It synthesizes research effort distribution across marine mammal species, identifies major knowledge gaps, and demonstrates relationships between research attention, stranding events, and conservation assessment outputs such as Red List evaluations.	Despite its empirical synthesis and Philippines focus, the study does not provide evidence of structured Triple Helix interaction or innovation system coordination. It does not meet inclusion criteria.
SID-b565	Exclude	The study investigates consumer impulse buying behavior and does not examine government–university–industry collaboration, policy coordination, or retail innovation ecosystems.	It identifies psychological and behavioral determinants of impulse buying, including attitude, subjective norms, perceived behavioral control, and pandemic-related anxiety.	Although empirically grounded and Philippines-focused, the study is limited to consumer psychology and does not address cross-sector innovation interactions or institutional collaboration structures required for Triple Helix analysis.
SID-b566	Exclude	The study examines educational assessment practices and student soft skills development without empirical evidence of government–university–industry collaboration, including joint curriculum innovation, policy integration, or industry-linked educational programs.	It evaluates relationships between assessment strategies (self-regulation, self-validation, self-enhancement) and student soft skills such as communication, collaboration, and critical thinking within a university context.	Despite being empirical and education-focused, the study remains confined to institutional pedagogy and does not analyze multi-sector innovation interactions. It does not satisfy Triple Helix criteria.
SID-b567	Exclude	The study on telehealth effectiveness does not empirically analyze government–university–industry collaboration in digital health innovation, policy implementation, or technology co-development.	It assesses patient perceptions of telehealth service effectiveness and identifies barriers such as connectivity issues and limitations in clinical assessment quality.	Although empirically grounded and Philippines-based, the study focuses on service evaluation rather than structured cross-sector innovation processes. It does not meet Triple Helix inclusion requirements.
SID-b568	Exclude	The study on harmful algal blooms does not examine government–university–industry collaboration, monitoring system co-development, or environmental innovation networks.	It demonstrates that perceived increases in harmful algal blooms are largely attributable to expanded scientific monitoring and reporting intensity, with regional variation in observed trends.	While methodologically robust and environmentally relevant, the study does not analyze innovation system interactions or cross-sector institutional collaboration. It is excluded from a Triple Helix synthesis.
SID-b569	Exclude	The study examines perceived labor market demand for Filipino civil engineers in Bahrain and does not empirically	It identifies perceived demand for technical, managerial, computer, and soft skills and analyzes relationships between	Although empirically based and relevant to workforce skills analysis, the study does not document structured cross-

		analyze government–university–industry collaboration, including curriculum alignment processes or institutional innovation partnerships.	respondent profiles and perceived employability in the construction sector.	sector innovation interactions or Triple Helix dynamics. It does not meet inclusion criteria.
SID-b570	Exclude	The study on employability and skills of senior high school graduates does not empirically examine government–university–industry collaboration in curriculum development, employability frameworks, or innovation system integration.	It establishes statistical relationships between cognitive, technical, and emotional skills and perceived employability likelihood among graduates, providing evidence for education and employment policy discussions.	Despite its empirical and policy-relevant findings, the study does not present evidence of structured cross-sector collaboration or innovation system processes. It is excluded from a Triple Helix meta-synthesis.
SID-b571	Exclude	The study analyzes climate change vulnerability in small-scale fisheries in the Davao Gulf using statistical methods (PCA, regression). It does not document government–university–industry interactions, including policy co-development, collaborative adaptation programs, or innovation partnerships in fisheries management.	It identifies key vulnerability drivers such as coral bleaching, limited access to credit, and climate variability, and quantifies impacts on catch per unit effort and livelihood outcomes. It also outlines community adaptation needs, including financial access, technical training, and livelihood diversification.	Although empirically robust and relevant to climate adaptation, the study does not provide evidence of structured Triple Helix collaboration or innovation system processes involving government, universities, and industry. It is a socio-ecological analysis without cross-sector innovation dynamics and therefore does not qualify for inclusion.
SID-b572	Exclude	The study examines CSR implementation and SDMP sustainability in Philippine mining communities. It does not empirically analyze government–university–industry collaboration in innovation, policy co-creation, or joint development initiatives.	It documents community perceptions of mining CSR practices, including awareness of SDMP funding requirements, implementation gaps, administrative transparency issues, and stakeholder engagement quality.	Although it engages multiple stakeholder perspectives, the study does not analyze structured Triple Helix interactions or innovation processes linking government, universities, and industry. It remains a CSR perception study and does not meet inclusion criteria.
SID-b573	Exclude	The study investigates hotel employees' perceptions of environmental practices and does not examine government–university–industry collaboration, sustainability innovation systems, or policy–industry co-development.	It identifies employee attitudes, awareness, and perceived benefits influencing acceptance of reduced disposable toiletries in hotel operations.	The study does not provide evidence of cross-sector collaboration or innovation system dynamics. It focuses on organizational-level environmental behavior without Triple Helix interactions and is excluded.
SID-b574	Exclude	The study evaluates restaurant responses to a local government single-use plastics ordinance. It does not analyze structured government–university–industry collaboration in policy design,	It reports operational challenges faced by restaurants, including increased costs of alternatives, material durability issues, limited policy understanding, and	Although it includes government regulation and private sector responses, it does not document collaborative innovation processes involving

		sustainability innovation, or joint implementation frameworks.	customer complaints regarding green practices.	universities or cross-sector co-creation. It does not meet Triple Helix criteria.
SID-b575	Exclude	The article provides pedagogical guidance on science performance assessment and does not empirically examine government–university–industry interactions in educational innovation systems or policy implementation.	It presents instructional assessment frameworks and examples aimed at improving critical thinking and authentic learning in science education.	The work is non-empirical and does not document cross-sector collaboration or innovation processes involving government, universities, and industry. It is excluded from Triple Helix synthesis.
SID-b576	Exclude	The study compares performance between state-owned and private firms using enterprise survey data. It does not analyze government–university–industry collaboration or innovation system interactions.	It evaluates differences in firm performance across innovation, finance, regulation, and labor indicators, identifying mixed results in innovation performance between SOEs and private firms in Asian economies.	The study focuses on firm-level performance metrics rather than cross-sector collaboration or co-innovation processes. It does not provide evidence of Triple Helix interactions and is excluded.
SID-b577	Exclude	The study examines an agricultural trading center involving farmers, a local government unit, and a university extension team. It does not systematically analyze structured government–university–industry innovation collaboration or co-innovation mechanisms.	It evaluates project outcomes, showing improved farmer income and identifying sustainability constraints such as limited funding and weak organizational capacity.	Although multiple actors are present, the study does not document formalized Triple Helix interaction, co-development processes, or innovation system dynamics. It remains a project evaluation and is excluded.
SID-b578	Exclude	The study analyzes digital labor influencers in the Filipino gig economy and does not examine government–university–industry collaboration, regulatory co-creation, or institutional innovation frameworks.	It explains informal knowledge production, worker support networks, and adaptive strategies within platform labor ecosystems under conditions of precarity.	The study focuses on labor community dynamics and informal governance structures rather than structured cross-sector innovation systems. It does not meet Triple Helix criteria.
SID-b579	Exclude	The study examines teachers’ financial literacy and entrepreneurial skills and does not document government–university–industry collaboration in entrepreneurship education, curriculum innovation, or policy-driven skill development systems.	It establishes relationships between financial literacy, entrepreneurial skills, and self-efficacy among teachers, providing empirical insight into competency development.	The study focuses on individual competencies and does not analyze institutional collaboration or innovation system linkages. It does not meet Triple Helix inclusion criteria.
SID-b580	Exclude	The study reviews pharmacy education adaptations during COVID-19 based on professional association inputs and does	It identifies key challenges in remote pharmacy education, including assessment limitations, laboratory	The study is based on professional reflection rather than structured empirical analysis of cross-sector collaboration. It

		not empirically examine government–university–industry collaboration in educational innovation systems.	training constraints, and resource access issues across Asia-Pacific contexts.	does not provide evidence of Triple Helix interaction and is excluded.
SID-b581	Exclude	The study provides qualitative insights into youth experiences in agricultural education and practice. It does not empirically document government–university–industry interactions, including co-innovation, policy co-design, or structured cross-sector collaboration in agrifood innovation systems.	It describes youth interpretations of agricultural education, including experiential learning, meaning-making in agriculture, and implications for youth engagement in agrifood systems.	Although Philippines-focused and empirical, the study does not present evidence of structured Triple Helix collaboration or innovation system linkages among government, universities, and industry. Its focus is individual experience rather than institutional interaction; therefore, it is excluded.
SID-b582	Conditional Include	The study examines the Philippine halal export sector and includes government representation (DTI author), industry actors (exporters), and academic contributors. It does not systematically analyze structured government–university–industry collaboration as formalized innovation processes.	It maps the development stage of the halal industry, identifies certification gaps, quality assurance and traceability challenges, and highlights institutional and infrastructural constraints affecting export competitiveness and regulatory alignment.	he study is Philippines-focused and empirically grounded, integrating government, academic, and industry perspectives on export system development. It satisfies partial Triple Helix relevance through documented engagement of all three spheres in analyzing sectoral development challenges. It is conditionally included because it captures government–university–industry interface dynamics at the level of policy and industry system analysis.
SID-b583	Exclude	The study conducts a comparative policy analysis of the Philippine Qualifications Framework and South Korea’s New Southern Policy. It does not examine government–university–industry collaboration in curriculum co-creation, innovation production, or institutional partnerships.	It identifies policy alignment opportunities to strengthen technical-vocational education quality, emphasizing qualifications frameworks and international policy coherence for workforce development.	The study is a document-based policy analysis and does not provide empirical evidence of structured Triple Helix interactions or innovation system processes. It does not meet inclusion criteria.
SID-b584	Exclude	The study evaluates government pandemic response policies and public satisfaction. It does not empirically analyze government–university–industry collaboration in policy implementation,	It synthesizes public response to COVID-19 interventions in the Philippines, including quarantine measures, vaccination programs, and business support policies, and reports general satisfaction with government actions.	Although policy-relevant and Philippines-focused, the study does not present empirical evidence of cross-sector innovation collaboration or Triple Helix interaction structures. It is excluded.

		innovation development, or institutional coordination mechanisms.		
SID-b585	Exclude	The study applies a gravity model to ASEAN trade flows and does not analyze government–university–industry collaboration in trade policy design, innovation systems, or institutional partnerships.	It estimates trade efficiency and gaps between the Philippines and ASEAN partners, identifying variation in bilateral trade performance and structural trade imbalances.	The study is macroeconomic and econometric in nature and does not address structured cross-sector collaboration or innovation system interactions. It does not meet Triple Helix criteria.
SID-b586	Exclude	The article proposes a conceptual framework linking photosynthesis research to socio-economic outcomes. It does not present empirical evidence of government–university–industry collaboration or innovation system interactions.	It synthesizes scientific knowledge on photosynthesis and argues for integrated upstream–downstream stakeholder alignment to translate biological research into agricultural applications and socio-economic benefits.	The work is conceptual and non-empirical, lacking documented Triple Helix interactions or collaborative innovation cases. It is excluded from a strict meta-synthesis.
SID-b587	Exclude	The study investigates fermentation processes in soybean milk and does not examine government–university–industry collaboration, technology transfer, or innovation networks.	It evaluates the effects of Lactobacillus fermentation on nutritional and functional properties of soybean milk, demonstrating improved biochemical composition in fermented samples.	The study is technical and laboratory-based with no evidence of cross-sector innovation interaction or institutional collaboration. It does not meet Triple Helix criteria.
SID-b588	Exclude	The study examines consumer perceptions of gendered pricing (pink tax) and does not analyze government–university–industry collaboration in regulatory design, market innovation, or consumer protection systems.	It identifies awareness levels and perception drivers of pink tax among Filipino youth, with findings indicating perceptions of unfair and discriminatory pricing practices.	The study focuses on consumer behavior and market perception without evidence of structured cross-sector collaboration or innovation system processes. It does not meet Triple Helix criteria.
SID-b589	Exclude	The study documents ethnobotanical knowledge of medicinal plants and does not analyze government–university–industry collaboration in bioprospecting, commercialization, or innovation system development.	It catalogs medicinal plant species, usage patterns, and ailments treated, contributing to biodiversity documentation and traditional knowledge preservation.	Although empirically grounded and Philippines-focused, the study does not provide evidence of structured cross-sector collaboration or innovation processes. It is excluded.
SID-b590	Conditionally include	The study primarily reflects government-centered e-governance dynamics in LGU-Valencia City, with strong involvement of local and national government actors and inter-agency (G2G) coordination. Industry appears indirectly through ICT	The study contributes to understanding local government digital transformation in the Philippines, particularly in terms of policy capacity across analytical, operational, and political dimensions. It highlights institutional strengths in	Conditionally include because the study provides empirical evidence of government-led digital governance with partial ICT-enabled industry involvement, offering useful contextual insights into public sector transformation in the

		infrastructure and digital platforms enabling e-services, while universities are not present in any capacity. Interactions are limited to service delivery relationships (G2C, G2B, G2E, G2G) rather than structured innovation collaboration or co-production among the three helices.	governance readiness and ICT adoption, while identifying persistent constraints such as limited infrastructure, uneven digital literacy, and gaps in citizen engagement. Overall, it provides insight into early-stage e-governance implementation rather than an integrated innovation ecosystem.	Philippines. However, it does not meet full Triple Helix criteria due to the absence of university participation and the lack of explicit innovation-oriented interactions among government, university, and industry actors.
SID-b591	Exclude	The study includes government actors in pandemic policy response and indirectly references industry (business disruption) and universities (online education), but does not analyze structured government–university–industry interactions or innovation-related collaboration. No Triple Helix relational system is modeled.	The study uses system dynamics to assess COVID-19 policy effectiveness, highlighting trade-offs between public health measures and economic impacts, and feedback effects between interventions and outcomes. However, it does not address innovation systems or Triple Helix relations.	Despite strong systems modeling of pandemic responses, the study does not empirically examine government–university–industry interactions or innovation processes. It therefore fails Triple Helix inclusion criteria and is excluded.
SID-b592	Exclude	The study examines regulatory and labor conditions in small-scale mining and does not analyze government–university–industry interactions, collaborative governance, or innovation system processes.	It documents hazardous working conditions, toxic exposure, child labor, and weak regulatory enforcement in informal mining operations, highlighting institutional governance failures.	The study does not present evidence of Triple Helix interactions, co-innovation processes, or institutional collaboration among government, universities, and industry. Its focus is regulatory deficiency and labor conditions, not innovation systems; therefore, it is excluded.
SID-b593	Exclude	Focuses on government-led COVID-19 response with university actors (UP system, task forces, economists) providing advisory and data support; industry is only indirectly referenced as economically affected sectors. No structured government–university–industry innovation interaction is present.	Highlights governance under uncertainty, fragmented science advice systems, and weak integration between expert knowledge and policy-making, revealing institutional coordination gaps.	While informative on science-policy dynamics, the study does not empirically analyze Triple Helix interactions or co-evolving institutional roles, thus failing inclusion criteria.
SID-b594	Exclude	The study conducts critical discourse analysis of political rhetoric and does not examine government–university–industry interactions or innovation system dynamics.	It analyzes language and rhetorical strategies to reveal how discourse constructs and reflects political power relations.	The study does not address Triple Helix interactions, institutional collaboration, or innovation processes, nor does it focus on the Philippine innovation system. It is excluded.
SID-b595	Exclude	The study focuses on automotive engineering design and does not analyze	It proposes a portable automotive charging and starting device and	The study provides no empirical evidence of cross-sector collaboration or

		government–university–industry collaboration, technology transfer systems, or innovation governance structures.	contributes technical knowledge in automotive engineering design and application.	innovation system interaction. Its scope is technical engineering design only; therefore, it is excluded.
SID-b596	Exclude	The study examines English teachers working outside their specialization and does not analyze government–university–industry interactions or innovation system dynamics.	It documents teacher coping strategies and workplace adaptation experiences in public senior high schools.	The study does not provide evidence of institutional collaboration or cross-sector innovation processes among government, universities, and industry. It is excluded from the Triple Helix meta-synthesis.
SID-b597	Exclude	The study examines tour guide experiences and does not document government–university–industry collaboration or innovation processes in tourism systems.	It identifies occupational challenges and lived experiences of tourism workers in a Philippine local context.	The study does not analyze structured cross-sector interaction or innovation system dynamics. It is excluded due to absence of Triple Helix evidence.
SID-b598	Exclude	he study analyzes student performance in accountancy education and does not examine government–university–industry interactions or innovation system processes.	It identifies predictors of academic success and provides empirical insight into student performance outcomes in higher education.	The study is limited to educational performance analysis and does not provide evidence of cross-sector collaboration or institutional innovation. It is excluded.
SID-b599	Exclude	The study examines consumer demand for Cordillera heirloom rice and does not analyze government–university–industry collaboration in agricultural innovation or heritage commercialization systems.	It estimates willingness to pay for heirloom rice, identifies socioeconomic determinants of demand, and evaluates market potential for heritage agricultural products.	The study focuses on market demand and consumer valuation without evidence of institutional collaboration or innovation system governance. It does not meet Triple Helix criteria and is excluded.
SID-b600	Exclude	The study examines media, press freedom, and censorship issues and does not analyze government–university–industry interactions or innovation system dynamics.	It discusses structural and relational constraints affecting media systems and public communication environments.	The study does not provide empirical evidence of Triple Helix collaboration or institutional innovation processes. Its focus is media governance rather than cross-sector innovation systems; therefore, it is excluded.
SID-b601	Exclude	The study examines pest and disease prevalence in an agricultural/ecological context. It does not document government–university–industry interactions, technology transfer, or collaborative innovation in the abaca sector.	It provides baseline ecological and agricultural data on pest and disease conditions but does not address innovation systems, institutional coordination, or structural collaboration.	The study contains no empirical evidence of government–university–industry interaction or co-innovation processes. It is excluded from the Triple Helix meta-synthesis.

SID-b602	Exclude	The study analyzes drowning prevention and public health determinants. It does not examine government–university–industry interactions or innovation system dynamics. The study analyzes drowning prevention and public health determinants. It does not examine government–university–industry interactions or innovation system dynamics.	It identifies risk factors and preventive strategies for drowning incidents within a public health framework.	The study does not document cross-sector collaboration or innovation processes involving government, universities, and industry. It is excluded from the Triple Helix meta-synthesis.
SID-b603	Exclude	The study evaluates stakeholder roles in implementing Education 4.0 in higher education using a multicriteria decision-making model. It does not analyze empirical interactions among government, universities, and industry.	It ranks stakeholder roles and identifies barriers to Education 4.0 implementation, including cybersecurity risks, cost constraints, and lack of collaboration, and proposes prioritized institutional actions.	The study treats stakeholders as functional categories within an institutional system and does not document government–university–industry interaction or co-innovation processes. It does not meet Triple Helix criteria and is excluded.
SID-b604	Exclude	The study examines entrepreneurial traits and business performance. It does not analyze government–university–industry interactions or innovation system structures.	It identifies micro-level factors influencing business performance in small enterprises.	The study does not provide empirical evidence of cross-sector collaboration or innovation processes. It is excluded from the Triple Helix meta-synthesis.
SID-b605	Exclude	The study investigates e-commerce adoption among SMEs. It does not analyze structured interactions among government, universities, and industry actors in innovation systems.	It identifies barriers to SME e-commerce adoption, including limited resources, lack of technical skills, privacy concerns, and low perceived benefits, and recommends capacity-building and policy support.	SMEs are analyzed as independent adopters rather than participants in a coordinated innovation system. The study lacks empirical evidence of government–university–industry collaboration and is excluded.
SID-b606	Exclude	The study examines challenges faced by local government frontliners during COVID-19. It does not analyze government–university–industry interactions or innovation system processes.	It documents operational and logistical constraints in local governance during pandemic response.	The study does not present evidence of cross-sector collaboration or institutional innovation dynamics. It is excluded from the Triple Helix meta-synthesis.
SID-b607	Exclude	The study focuses on resource allocation and process optimization. It does not examine government–university–industry	It provides insight into optimization of resources under operational constraints.	The study lacks empirical evidence of cross-sector innovation or institutional interaction. It is excluded.

		interactions or innovation system collaboration.		
SID-b608	Exclude	The paper is a review of edible insects and does not examine government–university–industry collaboration or innovation system processes.	It synthesizes knowledge on bioactive compounds and processing applications of edible insects in food systems.	As a non-empirical review, it does not document Triple Helix interactions or institutional collaboration. It is excluded.
SID-b609	Exclude	The study is an experimental agricultural investigation of oyster mushroom cultivation. It does not analyze government–university–industry interactions or innovation system dynamics.	It evaluates substrate composition and cultivation conditions to optimize mushroom production using agro-waste materials.	The study contains no evidence of cross-sector collaboration or institutional innovation processes. It is excluded from the Triple Helix meta-synthesis.
SID-b610	Exclude	The study examines waste furniture recycling optimization involving government and industry actors but does not include universities or analyze structured Triple Helix interactions.	It models cradle-to-cradle recycling operations to improve efficiency and cost performance in furniture waste processing systems.	The study lacks documented government–university–industry collaboration and does not analyze innovation system dynamics across all three spheres. It is excluded from the Triple Helix meta-synthesis.
SID-b611	Exclude	The study mentions government agencies and private industry actors in Philippine coffee production. University participation is absent, and no government–university–industry interactions or collaboration are analyzed.	It identifies production constraints including input costs, infrastructure gaps, financial limitations, and climate-related risks affecting coffee farming profitability.	The study provides no empirical evidence of Triple Helix interactions or innovation system dynamics. It focuses on farm-level production conditions rather than cross-sector collaboration and is excluded.
SID-b612	Exclude	The study examines datacasting-based educational interventions involving DepEd and schools. It does not include industry actors or analyze government–university–industry interactions.	It evaluates digital literacy, self-regulated learning, and implementation challenges in educational technology use in elementary education.	The study does not document cross-sector collaboration or innovation system interactions among government, universities, and industry. It focuses on educational delivery and is excluded.
SID-b613	Exclude	The study involves tourism stakeholders including government agencies and private sector actors. Universities are not analyzed as knowledge or innovation partners, and no government–university–industry interaction is examined.	It assesses tourism marketing gaps, stakeholder coordination issues, and destination promotion strategies within a regional tourism system.	The study does not provide empirical evidence of Triple Helix collaboration or innovation processes. It focuses on tourism management and is excluded.

SID-b614	Exclude	The study involves government agencies, a university data source, and technical consultants. These actors are not analyzed as interacting innovation system participants, and no government–university–industry collaboration is examined.	It applies a flood risk assessment model to evaluate infrastructure and relocation project impacts using combined datasets.	The study does not document structured Triple Helix interactions or innovation system processes. It is a technical engineering evaluation and is excluded.
SID-b615	Exclude	The study examines educational reform involving universities, industry mentors, and government policy context in China. These actors are not analyzed as interacting innovation system participants.	It proposes a curriculum reform model integrating digital tools and industry participation to improve ideological and political education outcomes.	The study does not analyze government–university–industry innovation collaboration or co-creation processes. It is not Philippines-focused and is excluded.
SID-b616	Exclude	The study is conducted by university researchers and addresses a government infrastructure problem. Industry actors are not analyzed, and no government–university–industry interaction is examined.	It develops an optimization model for CCTV placement to improve surveillance coverage and operational efficiency in an urban district.	The study does not document cross-sector collaboration or innovation system dynamics. It is a technical operations research application and is excluded.
SID-b617	Exclude	The study examines teacher retention in the public education system. It does not include industry actors and does not analyze government–university–industry interactions.	It identifies organizational and psychological factors influencing teacher retention in DepEd schools.	The study does not provide evidence of cross-sector collaboration or innovation system processes. It focuses on human resource outcomes and is excluded.
SID-b618	Exclude	The study examines public art governance involving local government and community actors. Universities and industry are not analyzed as innovation system participants, and no Triple Helix interactions are documented.	It documents public art installations, cultural identity formation, and urban heritage representation in Mandaluyong City.	The study does not address government–university–industry collaboration or innovation system dynamics. It is a cultural documentation study and is excluded.
SID-b619	Exclude	The study examines ecotourism governance involving local government and tourism stakeholders. Universities are not analyzed as knowledge actors, and no structured government–university–industry interaction is examined.	It identifies governance practices, operational challenges, and community participation issues in rural ecotourism development.	The study does not provide evidence of cross-sector innovation collaboration or Triple Helix interaction. It is excluded.

SID-b620	Exclude	The study examines public transportation impacts during COVID-19 involving government regulations and transport operators. Universities are not included, and no government–university–industry interactions are analyzed.	It documents socio-economic and operational disruptions in public transport systems under pandemic restrictions.	The study does not present evidence of cross-sector collaboration or innovation system dynamics. It focuses on sectoral impact analysis and is excluded.
SID-b621	Exclude	The study examines heritage tourism in Intramuros, focusing on visitors, operators, and destination attributes. Government is treated as contextual regulation, and universities are not included. No government–university–industry interactions are analyzed.	It identifies tourist motivation, satisfaction, and loyalty patterns and proposes a heritage tourism business model for destination management.	The study does not document or analyze Triple Helix interactions or innovation system processes. It focuses on tourism marketing and consumer behavior and is excluded.
SID-b622	Exclude	The study analyzes heavy metal contamination in Bangus and mentions government collaboration only as a recommendation. No government–university–industry interactions are documented or analyzed.	It provides empirical measurements of heavy metal levels in fish and contributes to food safety and environmental monitoring knowledge.	The study contains no evidence of structured collaboration or innovation system interaction among government, universities, and industry. It is excluded.
SID-b623	Exclude	The study examines hospital quality management systems. It includes government regulation (ISO standards) but does not involve universities or analyze government–university–industry interactions.	It assesses quality management practices and patient outcomes across hospitals in Region IV-A.	The study does not document cross-sector collaboration or innovation processes. It is limited to internal healthcare management and is excluded.
SID-b624	Exclude	The study conducts forest biodiversity assessment. Government references are regulatory only, and universities are not analyzed as interacting actors. No Triple Helix interactions are present.	It documents species diversity, endemism, and conservation status in a Philippine forest ecosystem.	he study does not provide evidence of government–university–industry collaboration or innovation system dynamics. It is excluded.
SID-b625	Exclude	The study evaluates broiler farm biosecurity compliance. Government standards are referenced, and farms represent industry, but universities are not included and no interactions among sectors are analyzed.	It identifies compliance gaps in biosecurity practices and infrastructure limitations in poultry farms.	The study does not document Triple Helix interactions or innovation processes. It is a sectoral compliance assessment and is excluded.

SID-b626	Exclude	The study documents ethnobotanical knowledge of medicinal plants. Government references are incidental, and universities and industry are not analyzed as interacting actors.	It provides quantitative documentation of medicinal plant use, cultural knowledge distribution, and conservation concerns.	The study does not present evidence of government–university–industry interaction or innovation system processes. It is excluded.
SID-b627	Exclude	The study examines ethnopharmacological knowledge with molecular validation of plant species. It does not analyze government–university–industry interactions or collaboration structures.	It documents medicinal plant use patterns and validates species identity using molecular tools, supporting biodiversity and drug discovery research.	The study does not provide empirical evidence of cross-sector collaboration or innovation system dynamics. It is excluded.
SID-b628	Exclude	The study is a normative analysis of distributive justice in Philippine social policy. It does not examine universities, industry, or government–university–industry interactions.	It applies Rawlsian theory to evaluate fairness in government aid distribution (ayuda programs).	The study is conceptual and non-empirical and does not document Triple Helix interactions or innovation processes. It is excluded.
SID-b629	Exclude	The study analyzes ASEAN macroeconomic growth and spillovers. It does not examine universities, firms, or government agencies as interacting innovation actors.	It identifies regional GDP interdependence, volatility transmission, and macroeconomic spillover effects among ASEAN-5 countries.	The study does not address institutional collaboration or innovation system dynamics. It lacks Triple Helix interaction evidence and is excluded.
SID-b630	Exclude	The study is a conceptual analysis of Thailand’s Self-Sufficiency Economy and Buddhist governance principles. It does not examine government–university–industry interactions.	It outlines ideological foundations of national development policy and governance philosophy.	The study is normative and non-empirical and does not document innovation system interactions or Triple Helix dynamics. It is excluded.
SID-b631	Exclude	The study examines visitor experiences and conservation management in Bulusan Volcano Natural Park. It involves park administrators and a civil society organization but does not analyze universities, industry actors, or government agencies as interacting innovation actors. It does not examine knowledge production, technology transfer, R&D collaboration, or policy–industry–academe linkages.	It provides empirical insights into ecotourism management, visitor experience, and community-based conservation practices.	The study does not document government–university–industry interactions or innovation system dynamics. It contains no evidence of structured cross-sector collaboration and is excluded.

SID-b632	Exclude	The study analyzes resort operators' strategies during COVID-19 and references government compliance requirements. It does not examine university involvement or structured government–university–industry interactions in an innovation context.	It documents crisis management strategies and operational adjustments in the hospitality sector.	The study does not provide empirical evidence of collaboration or innovation system interaction among government, university, and industry actors. It is excluded.
SID-b633	Exclude	The study conducts a labor economics analysis of gender gaps using survey data. It does not analyze universities, firms, or government agencies as interacting innovation actors, nor does it examine knowledge production or policy–industry–academe linkages.	It offers quantitative evidence on gender disparities in wages, employment, and labor force participation in the Philippines.	The study does not document government–university–industry collaboration or innovation processes. It does not meet Triple Helix inclusion criteria and is excluded.
SID-b634	Exclude	The study develops recommendations for multisectoral collaboration in vector-borne disease control through a scoping review and Delphi process. It does not analyze Philippine cases or empirically examine government–university–industry interactions in innovation systems.	It provides a consensus-based framework for intersectoral public health coordination.	The study does not document empirical collaboration among government, universities, and industry in an innovation context. It is not Philippines-focused and does not meet Triple Helix criteria. It is excluded.
SID-b635	Exclude	The study examines assessment practices in a university hospitality program and references industry skill requirements. It does not document direct interactions with government or industry actors, nor does it analyze collaborative knowledge or innovation processes among the three sectors.	It evaluates academic assessment alignment with industry skill demands in the context of 4IR competencies.	The study does not provide evidence of structured government–university–industry collaboration or innovation system interaction. It is limited to internal academic practice and is excluded.
SID-b636	Exclude	The study examines workplace inclusion of Deaf employees in private companies. It does not analyze government involvement in a collaborative capacity or engagement with universities as innovation actors.	It identifies perceptual gaps and organizational practices related to workforce inclusion and accommodations.	The study does not document government–university–industry collaboration or innovation processes. It focuses on organizational inclusion rather than innovation system dynamics and is excluded.
SID-b637	Exclude	he study involves a government agency (LLDA) and references environmental standards, but it does not include	It provides empirical evidence on water quality improvement using reed bed	The study does not document cross-sector collaboration or innovation system interactions among Triple Helix actors. It

		universities as actors or analyze structured collaboration among government, university, and industry.	systems and informs environmental management practice.	is limited to environmental monitoring and treatment efficacy and is excluded.
SID-b638	Exclude	The study examines Internet diffusion in Chinese regions and discusses government policy and enterprise roles. It does not empirically analyze government–university–industry interactions as collaborative innovation actors.	It identifies socio-economic and infrastructural determinants of regional technology adoption.	The study does not examine Philippine cases and does not document structured collaboration among government, university, and industry actors in innovation processes. It is excluded.
SID-b639	Exclude	The article discusses regulatory approaches to genome-edited crops and references government agencies, research institutions, and industry developers descriptively. It does not provide empirical analysis of government–university–industry interactions in the Philippines.	It offers a comparative overview of regulatory frameworks and their implications for agricultural biotechnology governance.	The study is a review and does not document empirical collaboration or innovation system dynamics among Triple Helix actors. It does not meet inclusion criteria and is excluded.
SID-b640	Exclude	The study presents a technical implementation of reinforcement learning for spectrum allocation. It does not analyze government, university, or industry actors as interacting participants in innovation processes.	It advances technical knowledge on reinforcement learning applications for TVWS spectrum management and channel optimization.	The study does not document government–university–industry collaboration or innovation system interaction. It is a technical engineering study and is excluded from the Triple Helix meta-synthesis.
SID-b641	Exclude	The study examines organizational commitment and job satisfaction within a single Philippine state college. It does not analyze government–university–industry interactions, innovation system processes, or documented collaboration among these actors.	The paper contributes to human resource management literature by assessing employee commitment and job satisfaction in a public higher education institution. It does not address structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	The study does not document collaboration among government, university, and industry actors, nor does it examine innovation-related processes such as knowledge production, technology transfer, or policy–industry–academe linkages. It fails to meet the Triple Helix criteria of documented cross-sector interaction and innovation system relevance.
SID-b642	Exclude	The study focuses on marketing strategies and consumer behavior in China’s gas station sector. It does not analyze interactions among government,	The paper contributes to marketing and consumer behavior research. It does not examine structural gaps, functional imbalances, or relational dynamics in a	The study is geographically outside the Philippines and does not document government–university–industry collaboration or innovation system processes. It does not satisfy the Triple

		universities, and industry actors within an innovation framework.	government–university–industry innovation system.	Helix criteria of documented interaction and innovation relevance in the Philippine context.
SID-b643	Exclude	The study describes regional collaborations among universities, NGOs, WHO, and government health agencies in the Asia Pacific. It does not document interactions among Philippine government, universities, and industry actors in innovation processes.	The paper provides descriptive insights into malaria vector control, capacity building, and cross-country coordination. It does not analyze structural, functional, or relational dynamics of a Philippine government–university–industry innovation system.	The study lacks empirical evidence from the Philippines and does not document collaboration among government, university, and industry actors in innovation. It does not meet the Triple Helix criteria of contextual relevance and documented cross-sector interaction.
SID-b644	Exclude	The study examines emergency management within universities and references coordination with government authorities. It does not document industry participation or structured collaboration among government, university, and industry actors.	The paper contributes to university emergency management practices, identifying gaps in planning and response mechanisms. It does not address innovation processes or relational dynamics among Triple Helix actors.	The study is focused on China and does not document government–university–industry collaboration in innovation. It fails to meet the Triple Helix criteria of documented tri-sector interaction and innovation system analysis in the Philippine context.
SID-b645	Exclude	The study analyzes university human resource management and internal capacity-building. It does not involve industry actors or document structured interactions with government that influence innovation processes.	The paper identifies institutional gaps in talent attraction, retention, and training. These findings pertain to organizational management and do not address structural or relational dynamics in a government–university–industry innovation system.	The study does not document collaboration among government, university, and industry actors, nor does it analyze innovation outcomes. It does not meet the Triple Helix criteria of documented tri-sector interaction and innovation relevance.
SID-b646	Exclude	The study provides technological analysis of VR/IoT applications for cultural heritage and references universities, enterprises, and government policies as background. It does not empirically investigate interactions among these actors.	The paper contributes technical knowledge on VR/IoT applications. It does not examine structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	The study lacks original empirical data on government–university–industry collaboration and does not analyze innovation system interactions. It fails to satisfy the Triple Helix criteria of documented cross-sector engagement.
SID-b647	Exclude	The study analyzes digital community marketing in China and references government strategies and enterprises. Universities are not included as actors, and no tri-sector collaboration is documented.	The paper identifies logistical and managerial challenges in digital marketing ecosystems. It does not address structural or relational dynamics among government, university, and industry actors.	The study does not document government–university–industry interactions or innovation-related collaboration. It does not meet the Triple Helix inclusion criteria.
SID-b648	Exclude	The study discusses government policies for digital agriculture in Hunan Province,	The paper identifies infrastructural and professional capacity gaps in digital	The study is geographically outside the Philippines, lacks documented tri-sector

		China. It does not document structured collaboration among government, university, and industry actors, nor does it address the Philippine context.	agriculture. It does not analyze structural, functional, or relational dynamics within a government–university–industry innovation system.	collaboration, and does not analyze innovation system interactions. It does not meet the Triple Helix criteria.
SID-b649	Exclude	The study references government support and enterprises in the development of a Chinese characteristic town but does not document university involvement or systematic tri-sector collaboration.	The paper identifies structural development gaps such as weak marketing and limited innovation capacity. It does not analyze functional imbalances or relational dynamics among government, university, and industry actors.	The study does not document government–university–industry interactions or innovation-related collaboration. It fails to meet the Triple Helix inclusion criteria.
SID-b650	Exclude	The study examines forest health tourism development in Zhejiang Province, China. Although it mentions collaboration with universities and industries, it does not analyze structured interactions among government, university, and industry actors in an innovation system framework, nor does it address the Philippine context.	The paper provides empirical insights into tourism development and industrial linkages. It does not examine structural gaps, functional imbalances, or relational dynamics in a government–university–industry innovation system.	The study is not Philippines-focused and does not document or analyze government–university–industry collaboration in innovation processes. It does not meet the strict Triple Helix inclusion criteria.
SID-b651	Exclude	The study analyzes the impact of economic policy uncertainty on corporate R&D in China’s strategic emerging industries. It examines government policy and firm behavior but does not document interactions among government, universities, and industry actors as co-participants in innovation processes.	The paper provides empirical evidence on how policy uncertainty affects corporate R&D investment across firm types. It does not address structural gaps, relational dynamics, or functional imbalances within a government–university–industry innovation system.	The study does not document collaboration between universities and firms or structured government–university–industry linkages. It is not situated in the Philippine context and does not analyze innovation system interactions consistent with Triple Helix criteria. It fails to meet the requirements of documented tri-sector engagement and innovation system relevance.
SID-b652	Exclude	The study discusses university–government–industry cooperation in social work education. These interactions are limited to educational coordination and do not constitute empirical investigation of innovation processes or outcomes.	The paper contributes to curriculum design and interdisciplinary talent cultivation in social work. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study does not document collaboration in technology development, knowledge transfer, or innovation production among government, university, and industry actors. It is not situated in the Philippines. It does not satisfy Triple Helix criteria requiring documented tri-

				sector interaction in an innovation context.
SID-b653	Exclude	The study addresses cross-border B2B supply chains and references government and financial institutions alongside industry actors. It does not document interactions among government, universities, and industry actors within innovation processes.	The paper provides strategic insights into supply chain management and big data use in trade. It does not examine structural coordination, functional imbalances, or relational dynamics among Triple Helix actors.	The study lacks empirical evidence of government–university–industry collaboration and does not analyze innovation-related outcomes. It is not situated in the Philippines. It does not meet the Triple Helix inclusion criteria of documented tri-sector interaction and innovation system relevance.
SID-b654	Exclude	The study involves government actors and universities in fraud prevention within Chinese higher education institutions. It does not include industry actors or analyze innovation processes among government, university, and industry participants.	The paper provides empirical insight into coordination between public security departments and universities in fraud prevention. It does not address innovation production, knowledge exchange, or structural dynamics within a Triple Helix framework.	The study does not document tri-sector collaboration in innovation contexts and is not relevant to the Philippine innovation system. It fails to meet Triple Helix criteria requiring documented government–university–industry interaction linked to innovation outcomes.
SID-b655	Exclude	The study examines leadership, informatization, and teamwork in Chinese organizations. It does not document interactions among government, universities, and industry actors in innovation processes.	The paper advances conceptual understanding of informatization leadership and organizational coordination. It does not analyze structural gaps, functional imbalances, or relational dynamics in a government–university–industry innovation system.	The study is theoretical, lacks empirical documentation of tri-sector collaboration, and does not address innovation system interactions. It does not meet Triple Helix inclusion criteria.
SID-b656	Exclude	The study outlines government-led, school-based, and enterprise training models for intangible cultural heritage in China. The interactions described are conceptual and not empirically documented as innovation processes among government, university, and industry actors.	The paper offers conceptual insights into talent development for cultural industries. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study is China-focused, largely theoretical, and lacks empirical evidence of government–university–industry collaboration in innovation. It does not meet Triple Helix criteria requiring documented tri-sector interaction and innovation outcomes.
SID-b657	Exclude	The study analyzes research productivity drivers in Philippine higher education institutions. It does not document empirically observed interactions among government, universities, and industry actors influencing innovation outcomes.	The paper identifies hierarchical relationships among institutional factors affecting research productivity. It does not analyze structural gaps, functional imbalances, or relational dynamics	Although Philippines-focused, the study lacks empirical documentation of tri-sector collaboration and does not examine innovation-related processes involving government and industry. It does not meet Triple Helix inclusion criteria.

			across government–university–industry actors.	
SID-b658	Exclude	The study maps research productivity and co-authorship networks among Philippine HEIs. The analysis is confined to academic collaborations and does not include government or industry actors.	The paper provides empirical insight into academic collaboration patterns in human movement sciences. It does not address structural or relational dynamics across government–university–industry actors.	The study lacks documented interaction among government, university, and industry actors and does not analyze innovation system dynamics. It fails to meet Triple Helix criteria requiring tri-sector engagement.
SID-b659	Exclude	The study discusses business incubators in China and references the general roles of government, universities, and industry. It does not provide empirical documentation of interactions among these actors.	The paper identifies trends and strategic issues in incubator development. It does not analyze structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	The study lacks empirical evidence of documented tri-sector collaboration and is not focused on the Philippine context. It does not meet the Triple Helix inclusion criteria.
SID-b660	Exclude	The study examines post-disaster business resilience in the Philippines and references institutional linkages. It does not document structured interactions among government, universities, and industry actors in innovation processes.	The paper identifies determinants of business resilience, including institutional control and communication. It does not analyze structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	Despite being Philippines-focused and empirical, the study does not document tri-sector collaboration or innovation-related processes involving government, universities, and industry. It does not satisfy the Triple Helix criteria for inclusion.
SID-b661	Exclude	The study assesses the resource potential of a floating solar PV system with AI integration. It involves a university-based researcher and notes consultation with a local government unit and community stakeholders. It does not document systematic interactions among government, university, and industry actors, nor does it analyze commercialization, co-development, or innovation network dynamics.	The paper provides technical analysis and preliminary planning insights for renewable energy deployment and community energy demand. It does not examine structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	The study lacks documented collaboration among government, universities, and industry in an innovation process. It does not analyze tri-sector interaction, knowledge transfer, or coordinated innovation activities as required by Triple Helix criteria. Therefore, it does not qualify for inclusion.
SID-b662	Exclude	The study reports funding from DOST-PCIEERD and involvement of Ateneo de Davao University. It does not document engagement with industry partners or structured collaboration among government, university, and industry	The paper contributes empirical data on tidal energy potential in the Philippines. It does not address structural gaps, functional imbalances, or relational dynamics across Triple Helix actors.	Although government and university actors are present, the study does not document tri-sector collaboration or innovation system interaction. It lacks evidence of coordinated government–university–industry engagement in

		actors in innovation processes. The research is limited to technical tidal resource assessment.		knowledge production or commercialization. It fails to meet Triple Helix inclusion criteria.
SID-b663	Exclude	The study evaluates conservation strategies in a government-managed protected area using visitor surveys. It does not document interactions with industry actors or structured collaboration among government, universities, and industry in innovation processes.	The paper provides insight into conservation management and ecotourism effectiveness. It does not analyze structural gaps, functional imbalances, or relational dynamics among Triple Helix actors.	The study does not document government–university–industry interaction, collaborative innovation, or knowledge co-production. It does not meet Triple Helix criteria requiring empirical evidence of tri-sector engagement in innovation-related processes.
SID-b664	Exclude	The study analyzes COVID-19 impacts on Asian agrifood systems and government policy responses. Although respondents include policymakers and university researchers, it does not document structured interaction among government, university, and industry actors in designing or implementing innovation initiatives.	The paper identifies vulnerabilities, resilience mechanisms, and policy effectiveness in agrifood systems. It does not examine structural or relational dynamics among Triple Helix actors within an innovation framework.	The study does not provide empirical evidence of coordinated government–university–industry collaboration in innovation processes. It lacks documented tri-sector interaction and innovation system analysis required for inclusion.
SID-b665	Exclude	The study discusses partnerships between schools and external organizations and proposes a conceptual framework for school improvement organizations. It does not document empirical collaboration among government, universities, and industry in innovation contexts.	The paper offers a conceptual typology of school improvement networks and associated risks and benefits. It does not analyze structural gaps, functional imbalances, or relational dynamics within a Triple Helix innovation system.	The study is literature-based and lacks empirical documentation of government–university–industry interaction in innovation processes, particularly within the Philippine context. It does not satisfy Triple Helix inclusion criteria.
SID-b666	Exclude	The study examines retirement readiness among employees within a single Philippine university. References to government retirement systems are contextual. It does not document collaboration or interaction among government, university, and industry actors.	The paper develops a framework linking demographic and employment characteristics to retirement preparedness. It does not address structural gaps, functional imbalances, or relational dynamics in a government–university–industry innovation system.	The study does not document tri-sector engagement or innovation-related collaboration. It fails to meet Triple Helix criteria requiring empirical evidence of government–university–industry interaction.
SID-b667	Exclude	The study proposes a GSM-based framework for agricultural knowledge	The paper develops a conceptual and quantitative model for ICT-enabled	The study lacks documented government–university–industry

		dissemination between rural farmers and academic experts. It does not document empirical interaction among government, university, and industry actors in collaborative innovation.	agricultural communication and identifies infrastructure and usability constraints. It does not analyze structural or relational dynamics among Triple Helix actors.	collaboration and does not examine coordinated innovation processes. References to telecom services and academe are contextual rather than relational within an innovation system. It does not meet Triple Helix inclusion criteria.
SID-b668	Exclude	The study addresses ecological and socio-cultural challenges in Philippine socio-ecological production landscapes. It does not document interactions among government, university, and industry actors in innovation processes.	The paper identifies biodiversity loss, cultural erosion, and sustainability constraints. It does not examine structural gaps, functional imbalances, or relational dynamics among Triple Helix actors.	The study lacks original empirical evidence of government–university–industry collaboration and does not analyze innovation system interactions. It does not meet Triple Helix inclusion criteria.
SID-b669	Exclude	The study explores the experiences of online sellers during COVID-19 in Metro Manila. It references government agencies and academe but does not document structured interaction among government, university, and industry actors.	The paper provides insight into entrepreneurial resilience and coping strategies during crisis. It does not analyze structural gaps, functional imbalances, or relational dynamics among Triple Helix actors.	The study does not document government–university–industry collaboration or innovation-related coordination. It lacks empirical evidence of tri-sector engagement required by Triple Helix criteria.
SID-b670	Exclude	The study examines ecological and agronomic aspects of rodent management and references community action and local government involvement. It does not document structured interaction among government, universities, and industry actors in innovation processes.	The paper synthesizes empirical evidence on rodent ecology, agronomic impacts, and food security. It does not analyze structural gaps, functional imbalances, or relational dynamics within a government–university–industry innovation system.	The study lacks documented tri-sector collaboration and does not examine innovation system interaction in the Philippine context. It does not meet the strict Triple Helix inclusion criteria.
SID-b671	Exclude	The study does not examine government–university–industry interactions. It discusses academic organizations and philosophical societies within universities but does not connect these actors to innovation processes, technology transfer, industry collaboration, or public policy.	The paper contributes to the intellectual history of Filipino philosophy and analyzes fragmentation among philosophical societies. Its focus is confined to humanities scholarship and intra-academic collaboration.	The study does not document interactions among government, university, and industry actors in relation to innovation systems. It lacks evidence of cross-sector collaboration, co-production of knowledge, or institutional linkages relevant to innovation. It therefore fails to meet the core Triple Helix criteria.
SID-b672	Exclude	The study describes the development of a decision support system for a Rural	The paper demonstrates the application of data mining and decision support tools	The study does not empirically investigate interactions among government,

		Health Unit. University actors are involved, but there is no documented collaboration with industry and no analytical examination of government–university–industry interaction beyond administrative access to data.	in local healthcare. It does not analyze structural, functional, or relational dimensions of innovation systems.	university, and industry actors influencing innovation processes. It focuses on technological implementation within a single public unit. It does not satisfy Triple Helix inclusion criteria.
SID-b673	Exclude	The study analyzes rural transformation in cereal-based agri-food systems at a global scale. It does not examine government–university–industry interactions and does not address Philippine innovation dynamics.	The paper contributes to understanding global agricultural trends and R&D investment priorities. It does not analyze institutional linkages or innovation system coordination.	The study does not document cross-sector collaboration among government, university, and industry actors, nor does it focus on the Philippine innovation system. It does not meet Triple Helix criteria.
SID-b674	Exclude	The study examines historical quarrying in Meycauayan and socio-religious organization. It does not involve innovation processes or government–university–industry interactions.	The article contributes to historical and cultural scholarship on colonial-era economic activity and community organization.	The study does not analyze innovation systems or document collaboration among government, university, and industry actors. It fails to satisfy Triple Helix inclusion criteria.
SID-b675	Exclude	The study documents collaboration between the Armed Forces of the Philippines and a foreign research institute for disease testing and sequencing. It does not involve industry actors and does not analyze innovation system dynamics within the Philippine context.	The paper contributes epidemiological and genomic data on SARS-CoV-2 in Metro Manila. It does not examine institutional coordination or cross-sector innovation processes.	The study does not document sustained interactions among government, university, and industry actors in innovation development or policy processes. It does not meet Triple Helix criteria.
SID-b676	Exclude	The study focuses on public elementary schools and managerial effectiveness. It does not involve industry actors or innovation-related government–university collaboration.	The paper contributes to educational management research at the school level. It does not address innovation systems or cross-sector institutional dynamics.	The study lacks documented interaction among government, university, and industry actors in innovation processes. Its scope is limited to school-level administration. It does not meet Triple Helix criteria.
SID-b677	Exclude	The study describes collaborations among government ministries, universities, and international organizations in school health programs. These interactions are programmatic and capacity-building rather than innovation-system collaborations involving	The paper provides descriptive analysis of school health networks, funding challenges, and sustainability issues. It does not examine structural or relational innovation dynamics within a Triple Helix framework.	The study does not provide empirical analysis of government–university–industry collaboration in knowledge production, technology development, or innovation system formation in the Philippines. It does not satisfy inclusion criteria.

		government–university–industry dynamics.		
SID-b678	Exclude	The study examines agricultural research and fertilizer optimization in sub-Saharan Africa. It does not analyze government–university–industry interactions in the Philippine context.	The paper advances agronomic and economic analysis of crop management tools. It does not address institutional linkages or innovation system coordination.	The study neither documents cross-sector collaboration among government, university, and industry actors nor focuses on the Philippine innovation system. It does not meet Triple Helix criteria.
SID-b679	Exclude	The study presents a global conceptual framework for biodiversity goals and indicators. It does not document empirical interaction among government, university, and industry actors.	The paper contributes to global environmental governance discourse. It does not analyze innovation systems or cross-sector collaboration.	The study is conceptual and not Philippine-focused. It does not document government–university–industry interactions or innovation processes. It fails to meet Triple Helix inclusion criteria.
SID-b680	Exclude	The study examines seafarers’ attitudes and workplace adaptation within shipping companies. It does not analyze interactions among universities, industry, and government in innovation processes.	The paper contributes to organizational behavior and maritime labor research. It does not address innovation system dynamics.	The study does not document or analyze government–university–industry collaboration, knowledge transfer, or policy–industry–academia linkages related to innovation. It does not qualify as a Triple Helix analytical case.
SID-b681	Exclude	The study examines awareness of the Magna Carta of Women among female faculty and GAD implementers within a single public university. It does not analyze government–university–industry interactions, collaborative innovation, knowledge transfer, or policy–industry–academe linkages.	The paper contributes to understanding gender policy awareness and institutional implementation within higher education. It does not address innovation system dynamics.	The study does not document collaboration among government, university, and industry actors in innovation processes. It lacks empirical analysis of cross-sector interaction or innovation system relevance. It fails to meet Triple Helix inclusion criteria.
SID-b682	Exclude	The study analyzes the development of a web-based student clearance system within a single state higher education institution. All actors are internal university stakeholders. There is no examination of government–university–industry collaboration.	The paper contributes to institutional ICT process improvement and system evaluation. It does not analyze innovation networks or cross-sector coordination.	The study documents intra-university administrative innovation only. It does not provide evidence of documented collaboration among government, university, and industry actors. It does not satisfy Triple Helix criteria.
SID-b683	Exclude	The study examines consumer segmentation and work behavior among infrastructure millennial workers in Region 12. It does not empirically analyze	The paper contributes to consumer behavior and labor psychology research during COVID-19. It does not address innovation system dynamics or institutional linkages.	The study does not document government–university–industry collaboration, knowledge transfer, or co-innovation processes. It lacks empirical

		interactions among university, industry, and government actors.		evidence of Triple Helix interaction. It fails to meet inclusion criteria.
SID-b684	Exclude	The study analyzes management practices of Filipino-Chinese SME entrepreneurs. Government actors appear only in a regulatory context, and universities are absent. There is no examination of university–industry–government collaboration.	The paper contributes to understanding entrepreneurial management practices and SME behavior. It does not analyze innovation system coordination or cross-sector relational dynamics.	The study does not document collaboration among government, university, and industry actors in innovation processes. It lacks empirical evidence of Triple Helix interaction and fails to meet inclusion criteria.
SID-b685	Exclude	The study examines Senior High School students' experiences conducting qualitative research on Ilokano culture. It does not analyze industry or government actors as innovation partners, nor does it examine university-mediated collaboration.	The paper contributes to research pedagogy, cultural identity formation, and heritage education. It does not address innovation processes or cross-sector institutional dynamics.	The study does not document government–university–industry collaboration or innovation system interaction. It fails to meet Triple Helix inclusion criteria.
SID-b686	Exclude	The study evaluates consumer sensory acceptability of a food product. Government and industry actors participate only as respondents, not as collaborating partners in research, innovation, or policy processes. There is no analysis of university–industry–government interaction.	The paper contributes to local food product development and market acceptability research. It does not analyze innovation system structures or cross-sector coordination.	The study does not document collaborative interaction among government, university, and industry actors in innovation processes. It lacks evidence of Triple Helix dynamics and does not meet inclusion criteria.
SID-b687	Exclude	The study analyzes Airbnb reviews of a private beach resort using sentiment analysis. It focuses on a single industry actor and consumers. Government and universities do not participate in documented collaborative interaction.	The paper contributes to service quality assessment and tourism management research. It does not address innovation system coordination or cross-sector relational dynamics.	The study does not document government–university–industry collaboration, knowledge exchange, or co-innovation processes. It lacks empirical evidence of Triple Helix interaction and fails to meet inclusion criteria.
SID-b688	Exclude	The study conducts a cross-country analysis of health service delivery reforms. It focuses on government health policy and service systems. Universities and industry do not appear as interacting innovation actors.	The paper contributes to comparative health policy reform analysis. It does not examine innovation system coordination or cross-sector collaboration.	The study does not document government–university–industry interaction, collaborative innovation, or knowledge transfer dynamics. It fails to meet Triple Helix inclusion criteria.

SID-b689	Exclude	The study evaluates service quality in a public education office using SERVQUAL. Industry actors are absent, and government appears only as the organizational setting. There is no analysis of cross-sector innovation collaboration.	The paper contributes to public-sector administrative performance research. It does not address innovation system dynamics or institutional coordination among Triple Helix actors.	The study does not document government–university–industry interaction, knowledge transfer, or innovation collaboration. It fails to meet Triple Helix inclusion criteria.
SID-b690	Exclude	The study analyzes eco-news discourse using Critical Discourse Analysis. Government appears as a subject of media representation. Universities and industry do not participate as interacting innovation actors.	The paper contributes to media and environmental discourse analysis. It does not address innovation processes or cross-sector institutional dynamics.	The study does not document empirical interaction among government, university, and industry actors in innovation systems. It lacks evidence of collaboration or co-production relevant to Triple Helix analysis. It fails to meet inclusion criteria.
SID-b691	Exclude	The study analyzes preservation and innovation of a traditional Chinese art form. It does not examine government–university–industry interactions or innovation system dynamics.	The paper contributes to cultural preservation, technological integration in performance, and audience engagement strategies. It does not analyze structural or relational dynamics among institutional actors within an innovation system.	The study is geographically outside the Philippines and does not document collaboration among government, university, and industry actors in innovation processes. It fails to meet Triple Helix inclusion criteria.
SID-b692	Exclude	The study examines digitalization in private accounting firms. It does not analyze government–university–industry interactions or structured collaboration among these sectors.	The paper contributes to understanding professional digital transformation, skill gaps, and efficiency gains in auditing. It does not address innovation system coordination or cross-sector relational dynamics.	The study does not document collaboration among government, university, and industry actors in innovation processes. References to regulatory standards do not constitute Triple Helix interaction. It fails to meet inclusion criteria.
SID-b693	Exclude	The study conducts molecular genetic analysis of coffee germplasm. It does not examine government–university–industry interactions or innovation governance structures.	The paper advances genetic characterization, varietal differentiation, and breeding support through ISSR markers. Its contribution is confined to laboratory-based biological research.	The study does not document institutional collaboration among government, university, and industry actors in innovation processes. It contains no analysis of knowledge transfer, commercialization, or innovation system coordination. It fails to meet Triple Helix inclusion criteria.
SID-b694	Fully Include	The study analyzes university-based business incubators in Philippine higher education institutions and documents university–industry collaboration through	Using mixed methods, the study evaluates incubator contributions to graduate employability, innovation outputs, and technopreneurship. It	The study provides empirical evidence of government–university–industry interaction within the Philippine innovation system. It documents

		start-ups, technopreneurship, patenting, and commercialization. It situates incubator operations within government innovation policy and institutional support frameworks.	identifies governance constraints, stakeholder participation gaps, and commercialization challenges. It develops a model linking curriculum integration, incubation services, and innovation outcomes.	structured collaboration in start-up development, technology commercialization, and policy-supported incubation. It satisfies Triple Helix criteria through demonstrated cross-sector coordination and innovation system relevance.
SID-b695	Fully Include	The study examines science and technology-based social enterprises supported by the Department of Science and Technology Grants-in-Aid program. It documents government funding and technical support, university-led capacity building, and enterprise-level production and commercialization.	Through qualitative case analysis, the study assesses governance, production capacity, market access, and sustainability challenges across seven enterprises. It develops a policy framework for strengthening institutional coordination and enterprise development.	The study provides documented evidence of government–university–industry collaboration through technology transfer and enterprise development mechanisms. It analyzes functional engagement across the three institutional spheres within the Philippine innovation system. It meets Triple Helix inclusion criteria.
SID-b696	Exclude	The study discusses nanotechnology for tuberculosis treatment at a conceptual and policy-advocacy level. It does not analyze documented interactions among government, university, and industry actors.	The paper presents a narrative overview of chitosan-based nanotechnology and argues for increased funding and institutional support. It does not provide empirical analysis of coordination mechanisms or innovation system dynamics.	The study does not document actual government–university–industry collaboration or innovation processes. It lacks empirical evidence of Triple Helix interaction and fails to meet inclusion criteria.
SID-b697	Exclude	The study analyzes consumer satisfaction with online live selling. It does not examine roles or interactions among government, universities, and industry as innovation actors.	The paper contributes to understanding consumer behavior, pricing perceptions, and perceived risk in e-commerce. It does not address innovation system coordination or institutional collaboration.	The study does not document government–university–industry interaction, knowledge transfer, or collaborative innovation processes. It fails to meet Triple Helix inclusion criteria.
SID-b698	Exclude	The study surveys tourists regarding social media's influence on tourism growth in Intramuros. It does not analyze collaborative interactions among government, university, and industry actors.	The paper contributes to tourism marketing and consumer perception research. It does not examine innovation system structures or cross-sector coordination.	The study does not document government–university–industry collaboration, knowledge co-production, or innovation processes. It fails to meet Triple Helix inclusion criteria.
SID-b699	Exclude	The study analyzes a corporate foundation's CSR programs and partnerships with government agencies.	The paper contributes to CSR governance and social work practice analysis. It does not address innovation system	The study does not document government–university–industry collaboration in innovation. It focuses on

		Universities are absent, and there is no tri-lateral interaction among government, university, and industry in innovation processes.	coordination or cross-sector knowledge exchange.	service delivery and philanthropy rather than innovation system dynamics. It fails to meet Triple Helix inclusion criteria.
SID-b700	Exclude	The study examines Filipino consumers' attitudes toward eco-friendly apparel. It does not analyze interactions among government, university, and industry actors in innovation processes.	The paper advances understanding of consumer behavior, intention–behavior gaps, and market barriers in sustainable apparel. It does not address innovation system coordination or cross-sector collaboration.	The study does not document government–university–industry interaction, knowledge transfer, or collaborative innovation mechanisms. It fails to meet Triple Helix inclusion criteria.
SID-b701	Exclude	The study examines ecotourism impacts and governance in a Philippine protected area involving LGUs, PAMB, NGOs, tourism enterprises, and local communities. It does not include universities as actors and does not analyze structured government–university–industry interactions in innovation or knowledge systems. Stakeholder references are descriptive and governance-oriented rather than relational within a Triple Helix framework.	The study provides empirical insights into socio-economic, cultural, and environmental impacts of ecotourism and identifies governance challenges in protected area management. Its contribution is limited to impact assessment and local governance dynamics without engagement in innovation processes, knowledge transfer, or institutional co-production.	The study does not document government–university–industry interactions, does not analyze collaborative innovation processes, and does not include universities as innovation actors. It does not examine structural, functional, or relational dynamics among Triple Helix institutions. Therefore, it does not meet the inclusion criteria for a Triple Helix qualitative meta-synthesis.
SID-b702	Exclude	The study surveys rice farmers on pesticide use and health outcomes, with coordination from the Department of Agriculture for site identification. It does not involve universities or industry actors in agribusiness innovation systems and does not analyze interactions among government, university, and industry.	The study provides empirical data on pesticide practices, farmer health, and socio-economic constraints in rice farming systems. It contributes to agricultural health and behavioral analysis but does not address innovation systems or inter-institutional coordination.	The study does not document government–university–industry interactions or innovation-related collaboration. It is a sectoral health and agriculture practice survey without Triple Helix relational analysis. Therefore, it is excluded.
SID-b703	Exclude	The study examines community-based tourism in Biliran Province with LGU and tourism council involvement. It does not include universities or industry actors in innovation collaboration and does not analyze structured Triple Helix interactions.	The study provides insights into socio-economic and environmental impacts of tourism and local governance roles in community-based tourism development. It does not address innovation processes or inter-sectoral coordination.	The study does not document government–university–industry interactions or innovation system dynamics. Its scope is limited to tourism development outcomes. Therefore, it does not meet inclusion criteria.

SID-b704	Exclude	The study evaluates BFAR government livelihood programs for fishing communities. It involves government actors only and excludes universities and industry actors, with no evidence of Triple Helix interaction.	The study assesses socio-economic outcomes of government interventions in fisherfolk livelihoods, focusing on knowledge, skills, and behavioral change. It does not analyze innovation systems or institutional collaboration.	The study lacks government–university–industry interaction and does not examine innovation-related processes. It is a government program evaluation only and is excluded.
SID-b705	Exclude	The study examines solo parent employees and implementation of social welfare law involving government agencies and BPO firms. It does not involve universities or structured innovation-related collaboration across Triple Helix actors.	The study identifies socio-legal and workplace challenges in social welfare implementation and highlights policy enforcement gaps. It does not address innovation systems or inter-institutional collaboration.	The study does not document government–university–industry interactions or innovation processes. Its focus is social welfare policy implementation, not innovation system dynamics. Therefore, it is excluded.
SID-b706	Exclude	The study focuses on threatened woody plant conservation with DENR involvement and community participation. It does not include universities or industry actors and does not analyze Triple Helix interactions.	The study contributes to biodiversity conservation knowledge and identifies ecological and policy gaps in forest management. It does not examine innovation systems or institutional collaboration structures.	The study does not document government–university–industry collaboration or innovation processes. It is ecological and regulatory in scope and is excluded.
SID-b707	Exclude	The study addresses US–China legal and trade disputes and does not involve Philippine government, university, or industry actors. It is outside the Philippine innovation system context.	The study analyzes international antitrust enforcement and sovereign regulatory behavior. It contributes to legal and policy analysis but not to innovation systems.	The study lacks Philippine context and does not document government–university–industry interactions. It is unrelated to Triple Helix innovation dynamics and is excluded.
SID-b708	Exclude	The study is ecological research on octocoral assemblages in the West Philippine Sea. It does not involve government, university, or industry interaction.	The study provides baseline biodiversity and ecological distribution data relevant to reef systems and conservation planning.	The study does not document any institutional collaboration or innovation-related interaction among government, university, and industry actors. It is purely ecological and excluded.
SID-b709	Exclude	The study assesses renewable energy potential and policy scenarios in Bohol. It does not document collaboration among government, university, and industry actors.	The study provides technical and economic analysis of renewable energy feasibility and capacity planning.	The study does not analyze government–university–industry interactions or innovation processes. It is a technical assessment and is excluded.
SID-b710	Exclude	The study is a global review of environmental pollution and COVID-19 severity. It does not involve Philippine	The study synthesizes evidence on environmental determinants of disease severity and policy implications. It is conceptual and review-based.	The study contains no original empirical evidence of Triple Helix interactions and does not analyze innovation system dynamics. Therefore, it is excluded.

		actors or document government–university–industry interactions.		
SID-b711	Exclude	The study analyzes global publication trends on sports activities during COVID-19 using bibliometric methods. It does not examine interactions among government, universities, and industry actors or document any innovation-related collaboration.	The study maps research output and publication patterns in sports and COVID-19 literature. It contributes to bibliometric knowledge production analysis but does not engage with innovation systems or cross-sector institutional dynamics.	The study contains no empirical evidence of government–university–industry interactions and does not analyze relational or innovation system dynamics. It is a global bibliometric review and is excluded.
SID-b712	Exclude	The study examines entrepreneurship students in a Philippine state university who engaged in small business activities during COVID-19. It references government support only in a general policy context and does not analyze interactions among government, universities, and industry.	The study contributes to understanding student entrepreneurship experiences and curriculum relevance during the pandemic. It does not address innovation systems or inter-institutional collaboration.	The study does not document government–university–industry interactions or innovation-related collaboration. References to government and industry are incidental and non-relational. It is excluded.
SID-b713	Exclude	The study reviews occupational safety and health (OSH) conditions in the Philippines, referencing government policies, industry conditions, and academic literature separately. It does not examine interactions among government, universities, and industry.	The study provides a descriptive overview of OSH hazards, regulatory gaps, and sectoral vulnerabilities. It does not analyze innovation systems or cross-sector collaboration.	The study is a secondary descriptive review and does not present empirical evidence of government–university–industry interactions or relational dynamics. It is excluded.
SID-b714	Exclude	The study analyzes higher education research outputs aligned with national policy (NHERA-II), involving universities and government frameworks. It does not include industry actors or examine interactions among the three sectors.	The study identifies gaps and trends in graduate education research productivity and policy alignment. It does not address innovation system relationships.	The study does not document government–university–industry interactions or cross-sector innovation dynamics. It is excluded.
SID-b715	Exclude	The study examines macroeconomic relationships among education, R&D, business activity, FDI, and exports using time-series data. It treats sectors as variables rather than interacting institutional actors.	The study identifies macro-level determinants of export performance and structural economic constraints such as the middle-income trap. It does not analyze institutional collaboration.	The study does not examine government–university–industry interactions or relational innovation processes. It is a macroeconomic econometric analysis and is excluded.
SID-b716	Exclude	The study is a phenomenological inquiry into Filipino senior high school students’	The study contributes to understanding student perceptions and educational	The study contains no government–university–industry interactions or

		perspectives on Holocaust education. It does not involve government, universities as research actors, or industry participants in any interactional framework.	experiences. It does not address innovation systems or institutional collaboration.	innovation-related processes. It is excluded.
SID-b717	Exclude	The study examines strategic management practices in cooperatives and references government regulation (CDA) as a background actor. It does not include universities or analyze cross-sector interactions.	The study evaluates how strategic management influences cooperative performance. It is limited to firm-level organizational analysis.	The study does not document government–university–industry interactions or innovation collaboration. It is excluded.
SID-b718	Exclude	The study analyzes process improvement in a private bank involving transactional interaction with the Bureau of Customs. It does not involve universities or innovation-related collaboration across sectors.	The study contributes to operational efficiency and internal process redesign within a single organization.	The study does not examine government–university–industry interactions or innovation system dynamics. It is excluded.
SID-b719	Exclude	The study examines microinsurance in the Philippines, involving government regulation and private providers. It does not include universities or analyze tri-sector collaboration.	The study identifies determinants of microinsurance adoption and financial literacy among vulnerable populations.	The study does not document government–university–industry interactions or innovation processes. It is excluded.
SID-b720	Exclude	The study surveys students’ perceptions of a Philippine governance policy (RA 11462). It does not involve industry actors or analyze interactions among government, universities, and industry.	The study provides insights into youth perceptions of political reform and governance impacts.	The study does not document government–university–industry interactions or innovation-related collaboration. It is excluded.
SID-b721	Exclude	The study examines student experiences in Technical Vocational and Livelihood (TVL) assessment within a school setting. It involves educational institutions only and does not include government agencies or industry actors. It does not document government–university–industry interactions, collaboration, knowledge transfer, or innovation-related engagement.	The study contributes to understanding student learning experiences, group dynamics, and assessment challenges in vocational education. It remains confined to pedagogical and classroom-level processes and does not address innovation systems or cross-sector institutional relations.	The study does not meet Triple Helix criteria because it provides no empirical evidence of interactions among government, university, and industry actors and no documentation of innovation-related collaboration or system-level dynamics. It is limited to educational assessment processes; therefore, it is excluded from the Triple Helix meta-synthesis.

SID-b722	Exclude	The study investigates students' mathematical beliefs, attitudes, and abilities in secondary education. It involves school-based data and does not examine government–university–industry interactions or collaborative innovation processes. References to policy support are not operationalized as inter-institutional engagement.	The study identifies predictors of mathematical performance and educational strategies within secondary schooling. Its analytical scope is cognitive and instructional, without engagement with innovation systems or institutional collaboration structures.	The study does not provide evidence of government–university–industry interaction or innovation-related collaboration. It is restricted to educational outcomes and does not meet Triple Helix inclusion criteria; therefore, it is excluded.
SID-b723	Exclude	The study addresses English proficiency in sports education and higher education internationalization in China. It is not Philippines-focused and does not examine government–university–industry interactions or innovation systems.	The study contributes to understanding English language learning challenges and pedagogical improvement strategies in higher education. It remains outside the Philippine innovation system and does not engage institutional collaboration frameworks.	The study lacks both Philippine context and any documented government–university–industry interactions. It does not meet Triple Helix criteria and is excluded.
SID-b724	Exclude	The study examines global healthcare supply chain vulnerabilities and does not analyze government–university–industry interactions or institutional collaboration in innovation systems.	It provides a systemic overview of supply chain risks in healthcare contexts but does not examine actor-level collaboration or innovation governance structures.	The study contains no empirical evidence of Triple Helix interactions and is not Philippines-specific. It does not meet inclusion criteria and is excluded.
SID-b725	Exclude	The study evaluates a government e-payment system involving government agencies and private suppliers. Universities are not involved, and no structured government–university–industry interaction or innovation collaboration is documented.	It analyzes user perceptions of usability, satisfaction, and effectiveness of a digital government service system. The focus is technology acceptance rather than innovation system dynamics.	The study does not document Triple Helix interactions or innovation-related collaboration across government, university, and industry. It is limited to government service evaluation and is excluded.
SID-b726	Exclude	The study focuses on financial data mining for loan default prediction within a single institution. It does not involve government, university, or industry interaction.	It contributes to predictive analytics for credit risk management but remains confined to internal institutional decision-making.	No government–university–industry interactions or innovation system engagement are documented. The study does not meet Triple Helix criteria and is excluded.
SID-b727	Exclude	The study analyzes supply chain actors in the mudcrab industry with limited government agency involvement (DA, BFAR) in a regulatory capacity only.	It identifies inefficiencies, price asymmetries, and governance constraints in the mudcrab supply chain. The analysis is sectoral and production-focused.	The study does not document structured government–university–industry collaboration or innovation processes. It lacks Triple Helix interaction evidence and is excluded.

		Universities are absent, and no Triple Helix interaction is documented.		
SID-b728	Exclude	The study examines construction project stakeholders under a government infrastructure program. It involves industry actors and government funding but excludes universities and does not analyze innovation collaboration.	It contributes to construction supply chain coordination and risk management under pandemic conditions.	The study does not document interactions among government, university, and industry actors. It lacks innovation system relevance and is excluded.
SID-b729	Exclude	The study focuses on Halal goat production involving government agencies (DA-BARMM) and external support (JICA). Universities and industry innovation interactions are absent.	It assesses compliance practices and technical gaps in Halal livestock production systems.	No government–university–industry interaction or innovation collaboration is documented. The study does not meet Triple Helix criteria and is excluded.
SID-b730	Exclude	The study examines community readiness for smart city initiatives led by government. Universities and industry actors are not involved in documented interactions.	It identifies determinants of community awareness, perception, and readiness for smart city adoption.	The study lacks evidence of government–university–industry interaction and does not analyze innovation system dynamics. It is excluded from the Triple Helix meta-synthesis.
SID-b731	Exclude	The study examines farm tourism impacts in Batangas using surveys of local residents. Government agencies are mentioned (e.g., DOT, DA, LGUs), but there is no documented interaction among government, university, and industry actors. Universities are not involved as innovation actors, and industry participation is limited to contextual reference. No empirical evidence of collaborative or innovation-oriented Triple Helix interaction is present.	The study provides empirical insights into economic, social, cultural, and environmental impacts of farm tourism and reports community perceptions. The analysis is confined to tourism impact assessment and local stakeholder perceptions, without engagement in innovation system structures or cross-sector collaboration.	The study does not document government–university–industry interactions or innovation-related collaboration. It does not analyze relational, structural, or functional dynamics among Triple Helix actors. Therefore, it does not meet inclusion criteria and is excluded.
SID-b732	Exclude	The study examines sustainability practices of Philippine universities and their community engagements. It does not document interactions among government, university, and industry actors as an integrated innovation system. Industry involvement and structured government collaboration are absent.	The study contributes to understanding institutional sustainability practices in higher education and their effects on stakeholders. It remains institution-centric and does not engage cross-sector innovation dynamics.	No empirical evidence of government–university–industry interaction is presented. The study does not address innovation system relationships and is excluded.

SID-b733	Exclude	The study is a bibliometric and expert-based analysis of sustainable supply chain management. Experts from academia, government, and practice are consulted, but no empirical interaction among government, university, and industry actors is observed or analyzed.	The study maps global SSCM trends and identifies research gaps and indicator priorities. It is a secondary analysis without system-level examination of institutional collaboration.	The study lacks original empirical evidence of Triple Helix interactions and provides no analysis of innovation system dynamics. It is excluded.
SID-b734	Exclude	The study examines sustainable tourism in Boracay involving government agencies, tourism enterprises, and limited academic references. However, interactions are descriptive and not structured as government–university–industry collaboration.	The study identifies sustainability challenges in tourism governance, including policy implementation gaps and stakeholder concerns. It does not analyze innovation system relationships.	The study does not document Triple Helix interactions or innovation-related collaboration. It is excluded.
SID-b735	Exclude	The study focuses on barangay-level ecological management involving local government units and communities. Universities and industry actors are absent, and no Triple Helix interaction is documented.	The study provides ecological and biodiversity documentation and describes local conservation practices. It remains limited to community-based resource management.	The study does not involve government–university–industry interaction or innovation processes. It is excluded.
SID-b736	Exclude	The study is a materials science investigation on ASGM tailings stabilization. It does not involve government–university–industry collaboration or institutional interaction.	It contributes to geochemical and engineering knowledge on waste stabilization and environmental remediation.	No Triple Helix interactions or innovation system relationships are documented. The study is excluded.
SID-b737	Exclude	The study assesses teacher education readiness for Education 4.0. It includes references to industry collaboration and policy directions, but no empirical government–university–industry interaction is documented.	It evaluates faculty competencies, infrastructure, and institutional readiness for digital education transformation.	The study does not present evidence of actual Triple Helix collaboration or innovation system interaction. It is excluded.
SID-b738	Exclude	The study examines teachers' experiences in synchronous online teaching. Government policies are referenced only as contextual background. No interaction among government, university, and industry actors is documented.	It provides insights into instructional challenges and adaptation in online learning environments during the pandemic.	The study does not analyze or document Triple Helix interactions or innovation processes. It is excluded.

SID-b739	Exclude	The study investigates ICT use in science instruction in secondary schools. It does not involve government, university, or industry interaction.	It contributes to understanding teacher ICT practices and instructional constraints in school settings.	No evidence of Triple Helix interaction or innovation system dynamics is present. The study is excluded.
SID-b740	Exclude	The study examines pre-service teachers' internship experiences within educational institutions. Government involvement is limited to regulatory context (DepEd), and there is no industry or innovation collaboration documented.	It contributes to understanding teacher training experiences and professional development during internships.	The study does not document government–university–industry interactions or innovation processes. It is excluded from the Triple Helix meta-synthesis.
SID-b741	Exclude	The study examines technical efficiency in coffee farms in Davao City. Government agencies (e.g., DA, DTI, BPI) are mentioned in relation to support programs, but no empirical interaction is documented among government, university, and industry actors. Universities and industry are not engaged as collaborating innovation actors.	The study identifies efficiency determinants and socioeconomic factors influencing coffee production performance. The analysis remains confined to agricultural productivity and does not address innovation system structures or cross-sector collaboration.	The study does not document government–university–industry interactions or innovation-related collaboration. It provides no evidence of relational, structural, or functional dynamics among Triple Helix actors and is therefore excluded.
SID-b742	Exclude	The study investigates students' technology proficiency and information literacy in a single university context. It does not involve government or industry actors and does not examine inter-institutional interaction.	The study analyzes relationships among student-level competencies in digital literacy and cognitive mapping. It is confined to individual educational outcomes.	No government–university–industry interactions are present or analyzed. The study does not address innovation system dynamics and is excluded.
SID-b743	Exclude	The study focuses on biodiversity conservation assessment involving scientific experts and NGOs. It does not document government–university–industry interactions or Philippine-based institutional collaboration.	It contributes to conservation evaluation methods, species recovery metrics, and ecological assessment frameworks. The analysis is ecological and methodological rather than innovation-system oriented.	The study does not present Triple Helix interactions or innovation-related collaboration and is not Philippines-specific. It is excluded.
SID-b744	Exclude	The paper discusses education policy changes, schools, and EdTech firms in conceptual terms. It does not present empirical evidence of structured interaction among government, university, and industry actors.	It provides policy commentary on remote learning transitions and technology adoption in education systems. The analysis is descriptive and non-empirical.	The study does not document government–university–industry interactions or innovation processes. It is excluded as it is not empirical Triple Helix research.

SID-b745	Exclude	The study examines Olympic venue development and financing models. References to universities and PPP structures are descriptive and do not constitute documented Triple Helix interaction.	It analyzes sustainable infrastructure use and economic implications of large-scale sports facilities. The focus is on infrastructure governance rather than innovation systems.	The study does not provide empirical evidence of government–university–industry collaboration and is not Philippines-focused. It is excluded.
SID-b746	Exclude	The study analyzes tobacco control policy submissions involving government and industry actors in Singapore. Universities are not substantively engaged, and no integrated Triple Helix interaction is present.	It examines corporate lobbying strategies and policy influence in tobacco regulation. The analysis is regulatory and political rather than innovation-oriented.	The study lacks university–industry–government interaction relevant to innovation systems and is not Philippines-based. It is excluded.
SID-b747	Exclude	The study examines teachers’ adversity quotient in a government school context. It does not involve universities or industry actors and does not analyze inter-sector interaction.	It contributes to understanding teacher resilience and coping mechanisms in special education settings. The focus is individual and psychological rather than systemic.	No Triple Helix interactions or innovation processes are documented. The study is excluded.
SID-b748	Exclude	The study examines agricultural trade dynamics in Africa under AfCFTA. It does not involve Philippine actors and does not analyze government–university–industry interactions.	It models trade flows and regional value chain integration. The analysis is macroeconomic and trade-focused.	The study is not Philippines-based and does not document Triple Helix interactions. It is excluded.
SID-b749	Exclude	The study analyzes energy consumption and economic growth in the Philippines. Government policy is discussed, but no interaction among government, university, and industry actors is documented.	It examines causal relationships between energy use and GDP growth and provides energy policy implications.	The study does not present evidence of Triple Helix interactions or innovation system collaboration. It is excluded.
SID-b750	Exclude	The study evaluates remote learning pedagogy in a Philippine university. It does not document interactions among government, university, and industry actors or innovation-related collaboration.	It analyzes instructional design, Community of Inquiry elements, and student learning satisfaction in online education.	The study does not provide empirical evidence of Triple Helix interactions or innovation system engagement. It is excluded.
SID-b751	Exclude	The study analyzes macro-level correlations among agriculture, manufacturing, and construction using PSA secondary data. It does not examine government, university, and industry as	The study contributes to understanding sectoral output linkages and growth correlations across major economic sectors. It does not address structural gaps, functional imbalances, or relational	The paper is a Philippine-based econometric sectoral analysis with no empirical evidence of government–university–industry interactions or innovation processes. It does not

		interacting actors, nor does it document collaborations, knowledge transfer, policy linkages, or institutional relationships among these sectors.	dynamics within the Philippine innovation system.	document inter-institutional collaboration or innovation system dynamics and therefore does not meet the Triple Helix inclusion criteria.
SID-b752	Exclude	The study is a qualitative cultural and heritage analysis of Banton Island focusing on archaeology, weaving traditions, and tourism potential. It does not analyze universities, industry actors, and government as interacting innovation-system participants, nor does it document collaboration or knowledge transfer among them.	The study contributes to understanding cultural heritage preservation, community traditions, and the socio-cultural decline of weaving practices. It does not address structural gaps, functional imbalances, or relational dynamics within a Triple Helix innovation system.	Although Philippine-based and original qualitative research, the study does not provide empirical evidence of government–university–industry interactions or innovation-related processes. Its focus is cultural heritage and tourism, not innovation systems, and it is therefore excluded.
SID-b753	Exclude	The study is a global ecological review of bat–plant interactions and ecosystem services. It does not analyze government, university, and industry as interacting innovation actors, nor does it document collaboration, governance, or knowledge transfer processes among these sectors.	The study contributes to biodiversity conservation science and identifies ecological research gaps in pteropodid systems. It does not address structural gaps, functional imbalances, or relational dynamics within a Philippine innovation system.	The study is non-Philippine and non-empirical with respect to innovation systems. It contains no evidence of government–university–industry interactions or innovation processes and does not meet the Triple Helix inclusion criteria.
SID-b754	Exclude	The study is a descriptive analysis of stingless beekeeping practices in Bali, Indonesia. It does not analyze structured interactions among government, university, and industry actors, nor does it document collaboration, knowledge transfer, or innovation system linkages.	The study contributes to understanding production constraints in small-scale apiculture, including skills, technology adoption, and marketing challenges. It does not address structural gaps, functional imbalances, or relational dynamics within a Triple Helix framework.	Although co-authored with a Philippine university, the study is Indonesia-focused and does not document government–university–industry interactions in innovation processes. It does not meet the Triple Helix inclusion criteria.
SID-b755	Exclude	The study examines Cebu’s puso street food industry and proposes a contextualized teaching model. It does not empirically analyze interactions among government, university, and industry actors, nor does it document collaboration, policy coordination, or knowledge transfer across these sectors.	The study contributes to understanding cultural-economic characteristics of a local food system and proposes an instructional framework. It does not address structural gaps, functional imbalances, or relational dynamics within a Triple Helix innovation system.	Although Philippine-based and original qualitative research, the study does not document or analyze government–university–industry interactions in innovation processes. References to sectors are contextual and not relationally or empirically grounded, and it is therefore excluded.
SID-b756	Exclude	The article is a global narrative review of skin-lightening practices and public health impacts. It does not present	The article synthesizes cultural, regulatory, and public health issues related to skin-lightening products. It does	The study is non-empirical and not Philippines-focused. It does not document government–university–

		original empirical research or analyze interactions among government, university, and industry actors in any innovation system context.	not address structural gaps, functional imbalances, or relational dynamics within the Philippine innovation system.	industry interactions or innovation processes and therefore does not meet the inclusion criteria.
SID-b757	Exclude	The study is a macro-econometric analysis of CO ₂ emissions in the Philippines. It does not examine government, universities, and industry as interacting actors, nor does it analyze collaboration, policy coordination, or innovation system linkages.	The study contributes evidence on the relationships between energy use, population growth, capital formation, and emissions. It does not address structural gaps, functional imbalances, or relational dynamics within a Triple Helix framework.	Although Philippine-focused and empirically grounded, the study contains no evidence of government–university–industry interactions or innovation processes. It is a macro-level environmental econometric analysis and is excluded.
SID-b758	Exclude	The study is a narrative analysis of China’s COVID-19 response. It references government actions, industry production, and research institutions but does not empirically analyze structured interactions or collaboration among government, university, and industry actors.	The study provides a descriptive account of policy responses, healthcare system measures, and industrial support during COVID-19. It does not address structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study is non-Philippine and non-empirical with respect to Triple Helix interactions. It does not document government–university–industry collaboration or innovation processes and is therefore excluded.
SID-b759	Exclude	The study is a policy document analysis of Philippine digital transformation strategies. It references industry, academe, and civil society in policy framing but does not empirically examine interactions among government, university, and industry actors.	The study maps ICT and e-government policy priorities and identifies implementation gaps. It does not address structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study is a policy review without empirical evidence of government–university–industry interactions or innovation processes. It does not meet the Triple Helix inclusion criteria and is excluded.
SID-b760	Exclude	The study is a historical narrative of nuclear medicine development. It does not examine government, university, and industry interactions, nor does it address collaboration, policy processes, or innovation system dynamics.	The study provides historical accounts of scientific discoveries and technological development in nuclear medicine. It does not address structural gaps, functional imbalances, or relational dynamics in innovation systems.	The article is non-empirical and unrelated to the Philippine innovation system. It contains no evidence of government–university–industry interactions and is excluded from the Triple Helix meta-synthesis.
SID-b761	Exclude	The study mentions government regulation (Bangko Sentral ng Pilipinas) and industry adoption of cryptocurrency. It does not examine universities as actors, nor does it analyze structured interactions among government, university, and	The study contributes to understanding cryptocurrency adoption drivers (relative advantage, compatibility, AI/ML integration) and financial market dynamics. It does not address structural gaps, functional imbalances, or relational	The study contains no documented government–university–industry interactions and no evidence of innovation-system collaboration. It is a technology adoption and financial

		industry in innovation processes, collaboration, or knowledge transfer.	dynamics in the Philippine innovation system.	analysis study and does not meet the Triple Helix inclusion criteria.
SID-b762	Exclude	The study analyzes ASEAN macroeconomic variables and trade policy effects. It does not examine universities, industry actors, and government as interacting innovation-system participants, nor does it document collaboration, knowledge transfer, or innovation linkages among them.	The study contributes to understanding trade flows, FDI, inflation, and tariff effects under free trade regimes. It does not address structural gaps, functional imbalances, or relational dynamics in a Triple Helix framework.	The study provides no empirical evidence of government–university–industry interactions or innovation processes. It is an economic trade analysis and does not meet the Triple Helix inclusion criteria.
SID-b763	Exclude	The study models sectoral inoperability during lockdowns using macroeconomic methods. It does not examine government, university, and industry as interacting actors, nor does it document collaboration or innovation-related coordination among them.	The study contributes to understanding sectoral resilience and economic disruption under lockdown conditions. It does not address structural gaps, functional imbalances, or relational dynamics in the Philippine innovation system.	The study contains no evidence of government–university–industry interactions or innovation processes. It is a macroeconomic modeling study and does not meet the inclusion criteria.
SID-b764	Exclude	The study analyzes urbanization effects on surface air temperature in the Philippines. It does not involve government, university, or industry actors as interacting participants, nor does it document collaboration or innovation processes among them.	The study provides empirical climate data on temperature trends and urbanization effects. It does not address structural gaps, functional imbalances, or relational dynamics in innovation systems.	The study contains no government–university–industry interactions or innovation-system evidence. It is a climate science study and does not meet the Triple Helix inclusion criteria.
SID-b765	Exclude	The study examines OFW migration and remittances. It does not analyze government, university, and industry as interacting actors, nor does it document collaboration, knowledge transfer, or innovation-related linkages.	The study contributes to understanding the macroeconomic effects of remittances on poverty and income distribution. It does not address structural gaps, functional imbalances, or relational dynamics in the innovation system.	The study contains no evidence of government–university–industry interactions or innovation processes. It focuses on labor economics and migration outcomes and does not meet the inclusion criteria.
SID-b766	Exclude	The study examines mining CSR programs and community impacts. Government appears only as a regulatory context, and universities are absent. It does not analyze structured interactions among government, university, and industry actors.	The study contributes to understanding CSR implementation and community perceptions of mining development programs. It does not address structural gaps, functional imbalances, or relational dynamics in innovation systems.	The study contains no documented government–university–industry interactions or innovation-related collaboration. It is a CSR assessment study and does not meet the inclusion criteria.

SID-b767	Exclude	The study examines dairy farm efficiency and green technology adoption. Government and university roles are limited to training and support programs, without evidence of structured interaction among government, university, and industry actors.	The study contributes to understanding technical and economic efficiency in dairy production and determinants of technology adoption. It does not address relational or systemic innovation dynamics.	The study provides no empirical evidence of government–university–industry collaboration or innovation processes. It does not meet the Triple Helix inclusion criteria.
SID-b768	Exclude	The study examines teacher professional development and policy frameworks in education. Government is present as a regulatory body (DepEd), but there is no involvement of industry or structured interaction among government, university, and industry actors.	The study contributes to understanding teacher competencies, pedagogical content knowledge, and professional development structures. It does not address innovation-system relational dynamics.	The study contains no government–university–industry interactions or innovation-related collaboration. It focuses on educational practice and does not meet the inclusion criteria.
SID-b769	Exclude	The study examines children’s play behavior and digital gaming. It does not involve government, university, or industry actors, nor does it analyze collaboration or innovation processes among them.	The study provides descriptive insights into shifts in play patterns and behavioral influences. It does not address structural gaps, functional imbalances, or relational dynamics in innovation systems.	The study contains no evidence of government–university–industry interactions or innovation processes. It is a sociocultural behavior study and does not meet the inclusion criteria.
SID-b770	Exclude	The study examines graduate employability and employer feedback. It involves universities and industry actors but excludes government and does not analyze structured interaction among government, university, and industry in innovation processes.	The study contributes to understanding skills gaps, employability outcomes, and curriculum relevance. It does not address systemic innovation dynamics or relational structures among Triple Helix actors.	The study lacks government involvement and does not document full Triple Helix interactions or innovation-system collaboration. It focuses on employment outcomes and does not meet the inclusion criteria.
SID-b771	Exclude	The study examines Zhejiang Province (China) and analyzes how “future communities” drive state-owned enterprise transformation. It includes government–enterprise interactions but does not involve universities or analyze university–industry–government relations. No Triple Helix configuration, collaboration, or innovation-system interaction is present.	The study provides evidence on central–local government coordination, SOE transformation, and urban infrastructure development within “future community” projects. It contributes to understanding state-led enterprise restructuring but does not address innovation-system structure, knowledge production, or cross-sectoral innovation dynamics.	The study is excluded because it does not document government–university–industry interactions. It lacks the university actor and provides no empirical evidence of collaborative innovation processes or relational dynamics among the three Triple Helix components. It is also outside the Philippine context, reinforcing non-alignment with the meta-synthesis criteria.
SID-b772	Exclude	The study analyzes oil palm expansion and governance mechanisms across	The study provides environmental and socio-economic analysis of oil palm	The study is excluded because it does not provide empirical evidence of

		Southeast Asia. It discusses government regulation and private sector activity but does not examine universities or interactions among government, university, and industry. No Triple Helix structure or collaboration is documented.	expansion, including governance trade-offs and sustainability challenges. It contributes to resource governance literature but does not engage innovation-system analysis or cross-sectoral knowledge dynamics.	government–university–industry interactions. It is not Philippine-focused and does not analyze innovation processes or collaborative systems required for Triple Helix inclusion.
SID-b773	Exclude	The study examines community perceptions and governance of the Naga River involving local government, businesses, and NGOs. Universities are only referenced indirectly, and no structured interaction among government, university, and industry is analyzed. No Triple Helix collaboration is documented.	The study provides a socio-environmental account of river degradation and rehabilitation efforts. It contributes to understanding local governance and environmental perception but does not address innovation processes or systemic institutional interactions.	The study is excluded because it does not document government–university–industry interactions or innovation-system dynamics. It focuses on environmental governance and community outcomes rather than collaborative innovation structures.
SID-b774	Exclude	The study analyzes consumer preferences for local beer during COVID-19. It references “open innovation” conceptually but does not examine government, university, and industry interactions or collaborative innovation processes. No Triple Helix system is present.	The study provides market-level insights on pricing, taste preferences, and product attributes affecting breweries. It contributes to consumer behavior analysis but not to innovation-system structure or inter-organizational collaboration.	The study is excluded because it lacks empirical evidence of government–university–industry interactions. It is limited to market analysis and does not address innovation-system relationships required for inclusion.
SID-b775	Exclude	The study examines computer music pedagogy in higher education. It does not involve government or industry actors and does not analyze interactions among government, university, and industry. No Triple Helix framework or collaboration is present.	The study contributes to curriculum development and pedagogical practice in music education. It focuses on teaching processes and learning experiences without addressing innovation systems or cross-sector dynamics.	The study is excluded because it does not document government–university–industry interactions or innovation-related collaboration. It is strictly an education-focused study with no relevance to Triple Helix systems.
SID-b776	Exclude	The study analyzes agricultural value chains for Queen pineapple production involving farmers, traders, and government agencies (LGU, DA). Universities are absent, and no structured government–university–industry interaction or innovation collaboration is analyzed.	The study provides detailed value-chain mapping, market structure analysis, and identification of constraints in agricultural production. It contributes to rural livelihood and market systems literature but not to innovation-system analysis.	The study is excluded because it does not document interactions among government, university, and industry actors. It focuses on agricultural marketing systems rather than innovation processes or Triple Helix collaboration.

SID-b777	Exclude	The study examines entrepreneurial intention among Filipino youth. It references government and education contexts but does not analyze interactions among government, university, and industry actors. No innovation-system collaboration is documented.	The study identifies psychological and social determinants of entrepreneurial intention. It contributes to behavioral entrepreneurship literature but not to innovation systems or institutional interaction analysis.	The study is excluded because it provides no empirical evidence of government–university–industry interactions. It is an individual-level behavioral study without relevance to Triple Helix structures.
SID-b778	Exclude	The study analyzes the Thai durian supply chain involving producers, exporters, and government officials. It does not include universities or examine structured government–university–industry interactions or innovation-system collaboration.	The study provides insights into supply chain efficiency, quality control, and market competitiveness in agriculture. It contributes to trade and logistics analysis but not to innovation-system dynamics.	The study is excluded because it does not involve Philippine actors and does not document government–university–industry interactions. It is a supply chain analysis without innovation-system relevance.
SID-b779	Exclude	The study references a “Triple Helix approach” in heritage conservation and includes government officials, academics, and private stakeholders. However, it does not empirically analyze structured interactions among government, university, and industry in innovation processes.	The study identifies governance gaps in heritage conservation, including weak implementation and low public awareness. It contributes to cultural heritage governance literature but not to innovation-system dynamics.	The study is excluded because it does not provide empirical evidence of government–university–industry interactions or innovation processes. The reference to Triple Helix is conceptual and not analytically operationalized.
SID-b780	Exclude	The study analyzes macroeconomic relationships among CO ₂ emissions, GDP, employment, and energy consumption. It does not examine government, university, and industry interactions or innovation-system collaboration.	The study contributes to environmental macroeconomics by quantifying relationships between emissions and economic growth indicators. It informs policy debates but does not address institutional or innovation-system structures.	The study is excluded because it lacks empirical evidence of government–university–industry interactions and is not Philippine-focused. It is a macro-econometric environmental analysis without innovation-system relevance.
SID-b781	Exclude	The study analyzes corporate financing structures and firm value in Chinese manufacturing firms. It examines firm-level and regional financial variation without involving universities or analyzing government–university–industry interactions. No Triple Helix relationships	The study contributes to understanding capital structure effects and regional heterogeneity in firm performance. It provides corporate finance evidence but does not engage innovation systems, knowledge transfer, or cross-sector institutional dynamics.	The study is excluded because it is not Philippine-focused and provides no empirical evidence of government–university–industry interactions. It is limited to corporate finance analysis and does not address innovation-related collaboration or Triple Helix dynamics.

		or innovation-system collaboration are present.		
SID-b782	Exclude	The study analyzes hospital utilization during COVID-19 using administrative data. It includes government health agencies and hospitals but does not involve universities or examine structured government–university–industry interactions. No Triple Helix framework is present.	The study provides system-level evidence on healthcare service disruptions, regional disparities, and hospital capacity constraints. It contributes to health system performance analysis but not to innovation-system dynamics.	The study is excluded because it does not document government–university–industry interactions or collaborative innovation processes. It is a health services utilization study without Triple Helix relevance.
SID-b783	Exclude	The study examines green consumer behavior in China. It references government, schools, and companies, but does not analyze interactions among government, university, and industry actors. No collaborative innovation processes are documented.	The study explains psychological mechanisms underlying green consumption behavior. It contributes to consumer psychology but does not address institutional collaboration or innovation systems.	The study is excluded because it is China-focused and provides no empirical evidence of government–university–industry interactions. It does not contribute to Triple Helix innovation system analysis.
SID-b784	Exclude	The study analyzes macroeconomic variables (inflation, unemployment, population growth, and economic growth) in the Philippines. It does not examine government–university–industry interactions or innovation-related collaboration.	The study provides evidence on macroeconomic relationships and economic performance trends. It contributes to economic policy analysis but not to innovation-system structures.	The study is excluded because it does not document any government–university–industry interactions. It is a macroeconomic analysis without innovation-system relevance.
SID-b785	Exclude	The study analyzes agricultural logistics and marketing involving farmers and middlemen. Government appears only as a data source; universities and structured innovation interactions are absent. No Triple Helix collaboration is documented.	The study examines supply chain inefficiencies, marketing margins, and farmer income distribution. It contributes to agricultural economics but not to innovation-system analysis.	The study is excluded because it does not document government–university–industry interactions or innovation processes. It focuses on agricultural market structure rather than Triple Helix dynamics.
SID-b786	Exclude	The study examines start-up marketing, online advertising, and consumer engagement in the Philippines. It does not analyze interactions among government, university, and industry actors. No structured innovation collaboration is documented.	The study provides insights into digital marketing effects on brand loyalty and purchase intention. It contributes to consumer behavior research but not to innovation-system structure.	The study is excluded because it does not provide empirical evidence of government–university–industry interactions. It is limited to marketing and consumer behavior analysis.

SID-b787	Exclude	The study analyzes industrial convergence in China's health and tourism sectors. It does not examine structured interactions among government, university, and industry actors or document Triple Helix collaboration.	The study identifies drivers of industry convergence such as capital, technology, and talent. It contributes to industrial economics but not to innovation-system analysis.	The study is excluded because it is China-focused and does not document government–university–industry interactions. It lacks relevance to Philippine Triple Helix innovation systems.
SID-b788	Exclude	The study examines seaweed farming households in the Philippines. LGU and higher education institution references are advisory only and do not constitute documented government–university–industry interactions. No innovation collaboration is present.	The study analyzes gender roles, household labor dynamics, and socioeconomic conditions in seaweed farming communities. It contributes to rural sociology and livelihoods research but not to innovation systems.	The study is excluded because it does not document government–university–industry interactions or innovation processes. It focuses on household-level social dynamics.
SID-b789	Exclude	The study analyzes municipal solid waste and recycling systems across countries, including the Philippines. It references government policy but does not examine universities or structured government–university–industry interactions.	The study evaluates relationships between waste generation, recycling rates, and economic growth. It contributes to environmental economics but not to innovation-system dynamics.	The study is excluded because it does not document government–university–industry interactions or innovation collaboration. It is an environmental-economic analysis without Triple Helix relevance.
SID-b790	Exclude	The study evaluates Philippine education reforms and their labor market effects. It focuses on government policy implementation and does not examine universities and industry as interacting innovation actors. No Triple Helix interactions are analyzed.	The study provides causal evidence on education reform impacts on schooling attainment and income distribution. It contributes to labor economics and policy evaluation but not to innovation systems.	The study is excluded because it does not document government–university–industry interactions or innovation processes. It is strictly a policy impact evaluation without Triple Helix relevance.
SID-b791	Exclude	The study examines SME organizational performance and accounting information systems. It does not involve government, university, or industry interactions and does not analyze collaborative innovation or institutional linkages among Triple Helix actors.	The study identifies relationships between accounting information systems and SME performance, focusing on internal efficiency, cost reduction, and decision-making. It contributes to organizational management literature but not to innovation systems or inter-organizational collaboration.	The study is excluded because it does not document government–university–industry interactions or innovation-related collaboration. It remains confined to firm-level performance analysis and does not meet Triple Helix inclusion requirements.
SID-b792	Exclude	The study examines university-led student volunteerism and community extension programs. Government involvement is minimal (DENR reference), and industry	The study evaluates student development outcomes from community service activities, including skills and values formation. It contributes to higher	The study is excluded because it does not provide empirical evidence of government–university–industry interactions. It focuses on student

		participation is absent. No structured government–university–industry interaction or innovation collaboration is documented.	education service-learning literature but not to innovation systems or cross-sector collaboration.	volunteerism rather than innovation-system dynamics.
SID-b793	Exclude	The study analyzes ecotourism performance and sustainability consciousness in Davao City. It references multiple stakeholders, but it does not document structured interactions among government, university, and industry actors.	The study provides insights into tourist perceptions and ecotourism sustainability awareness. It contributes to tourism studies but not to innovation-system analysis.	The study is excluded because it does not document government–university–industry interactions or collaborative innovation processes. It remains a perception-based tourism study without Triple Helix relevance.
SID-b794	Exclude	The study examines Filipino travel behavior under discrimination contexts. It does not analyze Philippine government–university–industry interactions or innovation processes. Government references pertain to a foreign context and are not part of a collaborative system.	The study explains tourism decision-making under perceived discrimination and safety concerns. It contributes to behavioral tourism research but not to innovation systems.	The study is excluded because it does not document any Philippine government–university–industry interactions or innovation-related collaboration.
SID-b795	Exclude	The study examines folk Catholicism and indigenous healing practices in Iligan City. It does not involve government, university, or industry actors and does not address innovation-system interactions.	The study provides ethnographic insights into cultural and religious healing practices. It contributes to anthropology and cultural studies but not to innovation systems.	The study is excluded because it does not document government–university–industry interactions or innovation processes. It is purely cultural-ethnographic research.
SID-b796	Exclude	The study examines extracurricular sports education. References to government, university, and industry are descriptive and not based on documented interactions or collaboration.	The study explores pedagogical innovation in physical education, including teaching strategies and extracurricular activities. It contributes to education practice but not to innovation-system analysis.	The study is excluded because it does not document structured government–university–industry interactions or innovation processes.
SID-b797	Exclude	The study examines theatre actors' lived experiences involving government, universities, and private companies. However, these references are descriptive and do not document structured Triple Helix collaboration.	The study provides socio-cultural insights into performing arts practices, motivations, and challenges. It contributes to cultural studies but not to innovation systems.	The study is excluded because it does not provide empirical evidence of government–university–industry interactions or innovation-related collaboration.
SID-b798	Exclude	The study examines construction workers' experiences during COVID-19. Government and employer support are	The study analyzes socio-economic impacts of the pandemic on construction workers and identifies coping strategies	The study is excluded because it does not document government–university–

		mentioned, but universities are absent and no Triple Helix interaction is documented.	and policy gaps. It contributes to labor studies but not to innovation systems.	industry interactions or innovation processes.
SID-b799	Exclude	The study focuses on sports journalism, AI, and big data in China. It does not analyze Philippine government–university–industry interactions. The Philippine affiliation of a co-author does not constitute a Triple Helix analysis.	The study examines media analytics, audience engagement, and AI applications in sports journalism. It contributes to media studies but not to innovation-system dynamics.	The study is excluded because it does not document government–university–industry interactions in the Philippine context or any innovation-system collaboration.
SID-b800	Exclude	The study examines milk tea businesses in the Philippines. It focuses on private firms and does not involve government or university actors. No Triple Helix interaction is present.	The study provides business-level analysis of operations, SWOT factors, and market challenges. It contributes to small business management literature but not to innovation systems.	The study is excluded because it does not document government–university–industry interactions or innovation-related collaboration. It is limited to firm-level business analysis.
SID-b801	Exclude	The study examines universities’ roles in migrant health through advocacy and research recommendations. It does not document interactions among government, university, and industry actors. No empirical evidence of collaboration, co-creation, or innovation-system engagement is presented.	The study provides recommendations for university engagement in migration and health policy development. It addresses academic and institutional responsibilities but does not contribute to analysis of structural gaps, functional imbalances, or relational dynamics in a Triple Helix innovation system.	The study is excluded because it is not original empirical research and does not document government–university–industry interactions or collaborative innovation processes. It therefore fails the inclusion criteria for a Triple Helix meta-synthesis.
SID-b802	Exclude	The study analyzes government intervention in higher education and program distribution across HEIs. It involves government–university relations only and excludes industry actors. No empirical evidence of university–industry–government interaction is presented.	The study examines market distortions from higher education subsidies and proposes program rationalization across public and private HEIs. It addresses structural imbalances in higher education provision but does not analyze innovation-system collaboration or Triple Helix relational dynamics.	The absence of industry engagement and lack of documented triple Helix collaboration disqualify the study under Triple Helix criteria. It is excluded from the meta-synthesis.
SID-b803	Exclude	The study focuses on teacher performance in public schools under the Department of Education. Government involvement is limited to regulatory oversight. No university–industry–government interaction or innovation collaboration is examined.	The study identifies contextual factors affecting teacher performance and work conditions in schools. It contributes to educational management literature but does not address innovation-system structures or relational dynamics among Triple Helix actors.	The study lacks empirical evidence of government–university–industry interaction and does not engage with innovation processes. It is excluded from the meta-synthesis.

SID-b804	Exclude	The study examines organizational justice and teacher behavior in public elementary schools. It involves only government-operated schools and does not include university or industry actors, nor any inter-sector collaboration.	The study provides insights into organizational behavior within schools, particularly teacher commitment and citizenship behavior. These findings are confined to intra-organizational dynamics and do not extend to innovation-system analysis.	There is no evidence of government–university–industry interaction or innovation-related collaboration. The study does not meet inclusion criteria.
SID-b805	Exclude	The study analyzes behavioral intention toward mobile wallet investment. It does not involve government, university, or industry interaction in innovation processes. No institutional collaboration is documented.	The study identifies behavioral predictors of investment intention and the moderating role of financial literacy. It contributes to consumer finance behavior literature but not to innovation-system dynamics.	The study operates at an individual behavioral level and provides no evidence of Triple Helix interactions. It is excluded.
SID-b806	Exclude	The study is a bibliometric and policy-oriented analysis of biomedical engineering. It does not document collaboration among government, university, and industry actors.	The study highlights potential contributions of biomedical engineering to healthcare systems and provides policy recommendations. It does not analyze innovation-system structures or relational dynamics.	There is no empirical evidence of government–university–industry interaction or collaboration. The study is excluded.
SID-b807	Exclude	The study is a historical-sociological analysis of industrialization and inequality. It does not examine government, university, or industry interactions in innovation contexts.	The study provides macro-historical insights into industrialization, labor, and inequality. It does not address innovation systems or Triple Helix structures.	The study is theoretical and historical with no empirical evidence of Triple Helix interactions. It is excluded.
SID-b808	Exclude	The study analyzes economic determinants of income inequality in the Philippines. It does not examine university–industry–government collaboration or interaction.	The study provides correlational evidence on GDP, taxation, and education spending in relation to inequality. It contributes to macroeconomic policy analysis but not to innovation-system dynamics.	No government–university–industry interaction is documented. The study does not meet inclusion criteria.
SID-b809	Exclude	The study documents local government and private sector involvement in urbanization and livelihood development. It excludes universities and does not analyze triple helix collaboration.	The study examines community adaptation to urbanization and identifies socioeconomic vulnerabilities and local initiatives. It does not address innovation-system structures or Triple Helix relations.	The absence of university participation and lack of documented Triple Helix interactions disqualify the study. It is excluded.
SID-b810	Exclude	The study examines cryptocurrency and NFT gaming perceptions. Government is referenced only as a potential regulator.	The study provides insights into consumer perceptions and regulatory concerns in crypto gaming. It does not address	The study lacks empirical evidence of government–university–industry interaction and does not address innovation processes. It is excluded.

		No university or industry collaboration is present.	innovation-system structures or relational dynamics.	
SID-b811	Exclude	The study examines student perceptions of travel decision-making during COVID-19. Government involvement (DOT accreditation) is mentioned only as contextual information. There is no empirical analysis of government–university–industry interactions or innovation-related collaboration among these actors.	The study explains tourism students’ decision-making under pandemic conditions using need-based behavioral factors. It contributes to understanding individual travel behavior but does not address innovation-system structures, functional interdependencies, or relational dynamics among Triple Helix actors.	The study does not document government–university–industry interactions, does not analyze collaborative innovation processes, and does not engage with innovation system dynamics. It is excluded under the strict Triple Helix inclusion criteria.
SID-b812	Exclude	The study examines teacher satisfaction and attrition in a U.S. school district. It involves only government-operated education institutions and does not include university–industry–government interaction or collaboration.	The study identifies determinants of teacher satisfaction and retention using Herzberg’s Two-Factor Theory. It contributes to organizational behavior literature but does not address innovation systems or cross-sector institutional collaboration.	The study is outside the Philippine context and does not document Triple Helix interactions. It is excluded.
SID-b813	Exclude	The study examines lived experiences of online sellers during COVID-19. Government appears only as a provider of lockdown policies; universities and industry actors are not engaged in innovation collaboration or structural interaction.	The study provides insights into entrepreneurial adaptation, including market behavior, supply constraints, and digital selling strategies. It remains at the individual and micro-market level without addressing innovation-system structures or inter-institutional dynamics.	No government–university–industry interactions are documented. The study does not meet inclusion criteria.
SID-b814	Exclude	The study reviews Philippine higher education policy responses during COVID-19. It references government agencies and HEIs but does not include industry actors or empirical collaboration among the three sectors.	The study identifies policy gaps and implementation challenges in flexible learning and compares regional approaches. It provides descriptive policy analysis but does not examine innovation-system relationships or institutional co-creation.	The study lacks original empirical evidence of government–university–industry interaction and excludes industry entirely. It is therefore excluded.
SID-b815	Exclude	The study develops a digital repository for Pili industry stakeholders. Government, university, and industry actors are mentioned but not empirically engaged in collaborative innovation processes.	The study contributes to agricultural information management through database development. It improves data accessibility but does not analyze inter-institutional collaboration, innovation networks, or system-level governance.	The study does not document government–university–industry interactions or innovation collaboration. It is excluded.

SID-b816	Exclude	The study addresses diplomacy and national security. Government, academic, and business actors are mentioned, but no empirical innovation-related interaction among them is analyzed.	The study provides policy and geopolitical analysis. It does not examine innovation systems, knowledge transfer, or institutional collaboration.	The study lacks government–university–industry interaction and does not address innovation processes. It is excluded.
SID-b817	Exclude	The study examines milk tea entrepreneurs’ responses to COVID-19 regulations. Government appears only as a regulatory body. No university or industry collaboration is analyzed.	The study explains entrepreneurial adaptation strategies under pandemic conditions. It focuses on firm-level resilience without addressing innovation-system structures or inter-sectoral relationships.	No Triple Helix interactions are documented. The study is excluded.
SID-b818	Exclude	The study examines social, educational, and humanitarian activities of the Hizmet movement involving schools, businesses, and LGUs. These actors are not analyzed as a coordinated innovation system, and no structured Triple Helix interaction is documented.	The study provides insights into community development, education support, and social welfare interventions. It does not analyze innovation systems or inter-institutional collaboration mechanisms.	The study does not document government–university–industry interactions oriented toward innovation. It is excluded.
SID-b819	Exclude	The study analyzes corporate board interlocks among listed firms. It excludes government and universities and does not examine cross-sector innovation interactions.	The study maps corporate governance networks and identifies patterns of board connectivity and influence. It contributes to understanding intra-industry governance structures but not innovation-system dynamics.	No government–university–industry interaction is analyzed. The study is limited to corporate networks and is excluded.
SID-b820	Exclude	The study analyzes macroeconomic determinants of GDP. Government agencies are mentioned only as policy users; universities and industry are not analyzed as interacting innovation actors.	The study identifies macroeconomic drivers of GDP using secondary data. It contributes to economic forecasting and policy analysis but not to innovation systems or institutional collaboration.	The study provides no evidence of government–university–industry interaction or innovation processes. It is excluded.
SID-b821	Exclude	The study does not examine government–university–industry interactions. It relies on secondary data from government and international sources but does not investigate collaboration, partnerships, or relational dynamics among the three institutional spheres. The focus is on globalization and child labor, not on innovation systems.	The study analyzes the macroeconomic relationship between globalization, economic growth, and child labor in the Philippines. Its contribution is confined to economic and social policy analysis and does not address innovation processes, institutional coordination, or cross-sector collaboration.	The study does not document government–university–industry interaction, collaborative innovation, or innovation system dynamics. It fails to meet the core inclusion criteria and is excluded.

SID-b822	Exclude	The study does not investigate interactions among government, university, and industry actors. References to lockdown policies are contextual and do not constitute documented collaboration or innovation-related engagement among the three sectors.	The study examines consumer purchase intention in relation to Facebook Messenger marketing by MSMEs. Its contribution is limited to marketing behavior analysis and does not engage with innovation systems or institutional collaboration.	No government–university–industry interaction is documented. The study does not analyze collaborative innovation processes or system-level dynamics. It is excluded.
SID-b823	Exclude	The study examines interactions between local government units and real estate developers. Universities are absent as actors, and there is no government–university–industry collaboration related to innovation.	The study provides insight into regulatory perceptions, business location decisions, and urban economic branding. It does not analyze knowledge co-production, innovation governance, or structural dynamics across institutional spheres.	The absence of university participation and the lack of documented innovation collaboration among the three sectors disqualify the study. It is excluded.
SID-b824	Exclude	The study focuses on internal local government processes and citizen engagement. It does not analyze interactions among government, university, and industry actors in innovation-related contexts. Universities and industry actors are not engaged as innovation partners.	The study contributes to understanding local governance performance, organizational capacity, and participatory mechanisms. It does not address innovation systems, institutional co-creation, or cross-sector knowledge exchange.	No government–university–industry interaction is documented. The study is confined to governance analysis and does not meet Triple Helix inclusion criteria.
SID-b825	Exclude	The study examines legal institutions within the Bangsamoro justice system. It does not analyze interactions among government, universities, and industry actors in relation to innovation, knowledge production, or commercialization.	The study advances understanding of legal-institutional reform and professional regulation. It does not address innovation processes or inter-institutional collaboration across the Triple Helix spheres.	The absence of documented government–university–industry interaction and innovation dynamics warrants exclusion.
SID-b826	Exclude	The study analyzes tourists’ travel motives. It does not examine government–university–industry interaction or collaborative innovation processes. Government appears only in policy recommendations.	The study contributes to tourism behavior and destination marketing literature. It does not address innovation systems, structural gaps, or relational dynamics among institutional actors.	No Triple Helix interaction or innovation collaboration is documented. The study is excluded.
SID-b827	Exclude	The study analyzes cooperative–market competition in Thailand. Universities are not examined as actors, and no	The study provides causal evidence on pricing spillovers in agricultural markets. It does not engage with innovation	The study is not Philippines-focused and does not document government–

		government–university–industry collaboration is analyzed.	systems or institutional collaboration frameworks.	university–industry interaction. It fails the inclusion criteria and is excluded.
SID-b828	Exclude	The study examines economic conditions in Cotabato City under Martial Law. While government and business actors are present, universities are not engaged as innovation actors, and no triadic collaboration is analyzed.	The study provides descriptive evidence on economic performance and business climate under security policy conditions. It does not analyze innovation processes, knowledge exchange, or institutional coordination.	The absence of documented government–university–industry interaction and innovation dynamics warrants exclusion.
SID-b829	Exclude	The study analyzes women micro-entrepreneurs’ experiences. It does not examine interactions among government, universities, and industry actors. Universities are absent as knowledge or innovation partners.	The study contributes to understanding micro-entrepreneurial behavior and resilience. It does not address innovation systems, structural gaps, or institutional collaboration across sectors.	No documented government–university–industry interaction or collaborative innovation process is present. The study is excluded.
SID-b830	Exclude	The study is a biodiversity taxonomy assessment describing new species. Although conducted by academic institutions, it does not analyze interactions among government, universities, and industry in innovation contexts.	The study advances taxonomic and biogeographic knowledge. It does not address innovation systems, knowledge transfer, commercialization, or cross-sector governance.	The study does not document government–university–industry interaction or collaborative innovation processes. It fails the inclusion criteria and is excluded.
SID-b831	Exclude	The study examines cooperative resilience during COVID-19 and references government regulation through the Cooperative Development Authority. It does not include universities as actors and does not analyze interactions, collaboration, or knowledge exchange among government, university, and industry. The focus is firm-level managerial adaptation.	The study provides descriptive evidence on organizational resilience, diversification, and continuity strategies among Philippine cooperatives. It does not address innovation system structures, inter-organizational coordination, or cross-sector collaboration.	The study does not document government–university–industry interactions, collaborative innovation, or institutional linkages within an innovation system. It fails to meet the inclusion criteria and is excluded.
SID-b832	Exclude	The study analyzes tuba production in Leyte and discusses livelihood relations and pricing issues. It does not examine universities as actors and does not analyze collaboration, knowledge transfer, or innovation processes among government, university, and industry.	The study offers qualitative documentation of traditional production, cultural practices, and market asymmetries. It does not address innovation systems, inter-organizational learning, or institutional coordination across sectors.	There is no documented government–university–industry interaction or collaborative innovation process. The study is excluded.

SID-b833	Exclude	The article critiques the entrepreneurial university and references Philippine policy contexts. It does not empirically analyze collaboration, knowledge transfer, or innovation processes involving government, university, and industry actors.	The paper provides a conceptual critique of academic capitalism and university marketization. It does not offer empirical evidence on innovation systems or cross-sector institutional dynamics.	The absence of empirical documentation of government–university–industry interactions and innovation-related collaboration warrants exclusion.
SID-b834	Exclude	The study evaluates a university internship program involving students and employer host organizations. Government appears only in the regulatory background. It does not analyze collaboration or coordination mechanisms among government, university, and industry in innovation processes.	The study provides evidence on internship outcomes and employability skill development. It informs curriculum alignment but does not address innovation systems or institutional collaboration across sectors.	The study does not document government–university–industry interaction or innovation-system dynamics. It is excluded.
SID-b835	Exclude	The study analyzes environmental governance and land subsidence in Metro Manila. It involves government agencies and communities but does not examine universities and industry as coordinated actors in innovation processes. Industry references are peripheral and not analyzed as collaborative partners.	The study contributes to understanding governance fragmentation and socio-ecological complexity in urban planning. It does not address innovation processes, knowledge co-production, or institutional coordination among government, university, and industry.	The study lacks documented government–university–industry interaction and does not analyze innovation-related collaboration. It is excluded.
SID-b836	Exclude	The study focuses on teachers’ work-from-home experiences and references the Department of Education in a regulatory context. It does not examine collaboration among government, universities, and industry actors or analyze innovation processes.	The study provides insight into professional and technological adaptation during remote work. It does not address structural or relational dynamics within the innovation system.	There is no documented government–university–industry interaction or collaborative innovation. The study is excluded.
SID-b837	Exclude	The study documents collaboration between government agencies and state universities in promoting agroforestry. Private industry actors are not involved in research, implementation, or innovation processes. Farmers are beneficiaries	The study contributes to understanding agroforestry adoption and community-based resource management. It does not analyze cross-sector innovation coordination involving government, university, and industry.	The absence of industry participation and documented cross-sector innovation collaboration disqualifies the study. It is excluded.

		rather than institutional innovation partners.		
SID-b838	Exclude	The study involves universities and international academic collaboration but does not document interaction with government or industry actors. It does not analyze funding partnerships, commercialization, or institutional coordination in innovation processes.	The study advances technical knowledge in OCT system development and biomedical applications. It does not address innovation system governance or cross-sector collaboration.	There is no documented government–university–industry interaction or collaborative innovation process. The study is excluded.
SID-b839	Exclude	The study analyzes tourism impacts on residents and local government involvement. Universities and research institutions are absent as actors in collaborative innovation processes.	The study contributes to understanding tourism’s economic, sociocultural, and environmental effects. It does not examine innovation systems, knowledge exchange, or institutional coordination across sectors.	The study does not document government–university–industry interactions or innovation-related collaboration. It is excluded.
SID-b840	Exclude	The study examines tourist perceptions of social media marketing. Government appears only in general recommendations, and there is no empirical analysis of collaboration or innovation processes involving government, universities, and industry.	The study provides insight into tourist awareness and expectations regarding social media marketing. It does not address structural or relational dynamics within the innovation system.	No documented government–university–industry interaction or innovation-system collaboration is present. The study does not meet the inclusion criteria and is excluded.
SID-b841	Exclude	The study references Philippine government agencies (IATF, DOT, DOH, LGUs) in relation to pandemic protocols and is conducted within a university context using student participants. It does not document interaction with industry actors, nor does it analyze collaboration or innovation processes among government, university, and industry. The interactions described are regulatory and compliance-based, not collaborative or innovation-oriented.	The study provides empirical evidence on tourist motivations and compliance with government health protocols. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study lacks documented collaboration or interaction among government, university, and industry actors and does not analyze innovation processes. It does not meet the inclusion criteria requiring empirical evidence of government–university–industry engagement.
SID-b842	Exclude	The study does not examine interactions among government, university, and industry actors. Policy recommendations for tourism agencies and local	It analyzes determinants of tourist satisfaction and behavioral intention in ecotourism. It does not investigate structural gaps, functional imbalances, or	The study contains no documented collaboration among government, university, and industry actors and does

		government are not supported by empirical analysis of collaboration or innovation processes. The study is geographically focused on Vietnam and does not address the Philippine innovation system.	relational dynamics among innovation actors.	not analyze innovation system dynamics. It fails to meet the inclusion criteria.
SID-b843	Exclude	The study focuses on literature education during the COVID-19 pandemic. References to DepEd and NGOs are contextual. There is no empirical examination of interaction or collaboration among government, university, and industry actors in innovation processes.	It contributes insights into pedagogical adaptation, curriculum delivery, and educational challenges. It does not address innovation system structures or cross-sectoral relational dynamics.	The study provides no documented evidence of government–university–industry interaction and does not analyze innovation processes. It does not meet the inclusion standard.
SID-b844	Exclude	The study is a conceptual and bibliometric analysis of resilience and “lock-in” in social-ecological systems. It does not examine interactions among government, university, and industry actors, nor does it analyze innovation systems in the Philippine context.	It contributes a conceptual framework for interdisciplinary sustainability science. It does not provide empirical evidence on structural or relational dynamics among innovation actors.	The study contains no documented collaboration among government, university, and industry actors and does not analyze innovation processes. It fails to satisfy inclusion criteria.
SID-b845	Exclude	The study examines sustainability accounting education among university students. It does not document interaction with government agencies or industry actors in research design, implementation, or outcomes.	It provides evidence on student awareness and curriculum integration of sustainability accounting. It does not examine structural gaps or relational dynamics within an innovation system.	The study presents no empirical evidence of government–university–industry collaboration or innovation-related engagement. It does not meet the inclusion criteria.
SID-b846	Exclude	The study develops a water quality monitoring and prediction system using technical standards. It does not document collaboration or interaction among government, university, and industry actors in innovation processes.	It advances technical knowledge in sensor-based monitoring and machine learning applications. It does not analyze structural or relational dynamics among innovation actors.	The study lacks documented government–university–industry collaboration and does not examine innovation system relationships. It does not meet the inclusion requirement.
SID-b847	Exclude	The study analyzes coordination among local government units, community stakeholders, and civil society organizations in coastal adaptation. It does not document interaction with	It provides qualitative evidence on governance gaps and environmental management challenges. It does not address structural or relational dynamics within an innovation system.	The study does not document collaboration among government, university, and industry actors and does not analyze innovation processes. It fails to meet inclusion criteria.

		universities or industry actors, nor does it examine innovation processes involving all three sectors.		
SID-b848	Exclude	The study focuses on remote sensing and machine learning for bamboo resource mapping. It does not document collaboration among government, university, and industry actors. References to government plans are contextual and not evidence of interaction.	It contributes methodological advances in spatial resource estimation. It does not examine structural gaps or relational dynamics among innovation actors.	There is no documented government–university–industry collaboration or analysis of innovation system processes. The study does not meet inclusion standards.
SID-b849	Exclude	The study assesses demand for Mobility-as-a-Service in Metro Manila using commuter surveys. It does not document collaboration or interaction among government, university, and industry actors in innovation processes.	It provides insights into adoption behavior and transport preferences. It does not analyze structural or relational dynamics within an innovation system.	The study contains no empirical evidence of government–university–industry interaction and does not examine innovation processes. It does not meet the inclusion criteria.
SID-b850	Exclude	The study evaluates employability outcomes of fisheries graduates. Although graduates work in government and industry, the research does not document collaboration among government, university, and industry actors in innovation processes.	It provides descriptive evidence on graduate employment, job satisfaction, and curriculum relevance. It does not examine structural gaps or relational dynamics within an innovation system.	The study does not document government–university–industry collaboration or innovation-related interaction. It fails to meet the strict inclusion criteria.
SID-b851	Exclude	The study traces the employability of BS Mathematics graduates and evaluates program outcomes. Although graduates work in government, industry, and education, the study does not examine interaction, collaboration, or knowledge exchange among government, university, and industry actors. No innovation processes or joint initiatives are analyzed.	It provides descriptive evidence on graduate employment, job types, and skill utilization. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study contains no documented government–university–industry collaboration and does not analyze innovation system relationships. It does not meet the inclusion criteria.
SID-b852	Exclude	The study examines employability and skill utilization of BSEd graduates and collects feedback for university improvement. It does not document interaction or collaboration among	It offers descriptive insights on graduate outcomes, curriculum relevance, and institutional feedback. It does not address structural or relational dynamics among innovation actors.	There is no empirical evidence of government–university–industry interaction or documented collaboration in innovation processes. The study fails to satisfy the inclusion standard.

		government, university, and industry actors, nor does it analyze innovation-related processes.		
SID-b853	Exclude	The study evaluates employability and curriculum relevance in teacher education. References to government scholarships and licensure exams are contextual. It does not analyze collaboration or interaction among government, university, and industry actors in innovation processes.	It contributes findings on graduate employment and program effectiveness. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study presents no documented government–university–industry collaboration and does not analyze innovation-related interaction. It does not meet the inclusion criteria.
SID-b854	Exclude	The study describes duck-raising practices and local livelihoods. References to government agencies and potential university involvement are recommendations, not documented collaboration. There is no empirical evidence of structured interaction among government, university, and industry actors in innovation processes.	It provides qualitative insights into agricultural practices, succession challenges, and adaptive strategies. It does not analyze structural or relational dynamics within an innovation system.	The study lacks documented government–university–industry interaction and does not examine innovation processes. It fails to meet the inclusion requirement.
SID-b855	Exclude	The study analyzes the impact of trade liberalization on Philippine agriculture through econometric modeling. Although it references government policy, it does not examine collaboration or interaction among government, university, and industry actors in innovation processes.	It contributes evidence on trade openness, imports, and employment effects on agricultural production. It does not address structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no documented government–university–industry collaboration or analysis of innovation system interaction. The study does not meet the inclusion criteria.
SID-b856	Exclude	The study examines rural health workforce training and educational pathways. Government and educational institutions are referenced in policy context, but there is no documented collaboration or interaction among government, university, and industry actors in innovation processes. Industry actors are absent.	It provides insights into workforce training, equity, and policy constraints in health education. It does not analyze structural or relational dynamics within an innovation system.	The study contains no empirical evidence of government–university–industry interaction or documented innovation collaboration. It does not meet the inclusion criteria.
SID-b857	Exclude	The study describes a partnership involving a university, local government officials, and grassroots entrepreneurs.	It contributes insights into entrepreneur training needs and program implementation. It does not examine	The study does not document sustained, structured government–university–industry collaboration in innovation

		The documented activities consist of university-led training and support. There is no evidence of reciprocal collaboration, co-creation, or joint innovation processes among government, university, and industry actors.	structural gaps, functional imbalances, or relational dynamics within an innovation system.	processes. It therefore does not meet the inclusion standard.
SID-b858	Exclude	The study discusses knowledge systems, universities, governments, and civil society in a broad, global framework. It does not document interaction among government, university, and industry actors in the Philippine context or analyze innovation processes within a defined innovation system.	It offers conceptual and qualitative insights into knowledge system transformation and inclusivity. It does not examine structural or relational dynamics among government, university, and industry actors in a national innovation system.	The study lacks empirical evidence of Philippine government–university–industry collaboration and does not analyze innovation processes. It does not meet the inclusion criteria.
SID-b859	Exclude	The study investigates environmental contamination and public health risks. It does not document collaboration or interaction among government, university, and industry actors in innovation processes. References to potential policy use are not evidence of interaction.	It provides empirical data on heavy metal contamination and ecological risk assessment. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no documented government–university–industry collaboration or analysis of innovation system relationships. The study does not meet the inclusion requirement.
SID-b860	Exclude	The study models renewable energy transition pathways in the Philippines. Although it references government policy and industrial energy consumption, it does not document interaction or collaboration among government, university, and industry actors in innovation processes. Universities and coordinated cross-sector engagement are absent.	It contributes technical and economic modeling of renewable energy scenarios and policy implications. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study provides no empirical evidence of government–university–industry collaboration or innovation-related interaction. It does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b861	Exclude	The study examines school leadership practices in Chinese private schools in the Philippines. References to government health protocols and Department of Education directives are regulatory context only. There is no analysis of interaction, collaboration, or	It provides insights into leadership styles and crisis management in education. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study contains no documented government–university–industry collaboration and does not address innovation system relationships. It does not meet the inclusion criteria.

		innovation processes among government, university, and industry actors.		
SID-b862	Exclude	The study analyzes engineers' competencies and master's degree attainment. Universities and employers are referenced descriptively, but there is no documented interaction or collaboration among government, university, and industry actors in innovation processes.	It identifies correlations between advanced education and perceived competencies. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no empirical evidence of government–university–industry collaboration or innovation-related interaction. The study does not meet the inclusion standard.
SID-b863	Exclude	The study examines occupational injuries using hospital data. Government hospitals and workplaces are included as data sources, but there is no analysis of collaboration or interaction among government, university, and industry actors in innovation processes. Universities are not engaged as institutional actors.	It contributes epidemiological evidence on work-related injuries and associated risk factors. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study does not document government–university–industry collaboration or innovation system interaction. It does not satisfy the inclusion criteria.
SID-b864	Exclude	The study reviews research trends and collaboration patterns in Philippine scomid research. It reports co-authorship and institutional linkages but does not analyze interaction among government, university, and industry actors in innovation processes.	It provides bibliometric analysis of research productivity and thematic gaps. It does not examine structural or relational dynamics within an innovation system.	The study is a bibliometric review without empirical analysis of government–university–industry collaboration in innovation. It does not meet the inclusion requirements.
SID-b865	Exclude	The study focuses on social capital and trust within a private Catholic school community. Government and industry actors are not engaged in collaborative innovation processes, and there is no interaction among government, university, and industry actors.	It offers qualitative insights into parental decision-making and school-community networks. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no documented government–university–industry collaboration or innovation-related interaction. The study does not meet the inclusion standard.
SID-b866	Exclude	The study documents collaboration between local government officials and community members in disaster management. Universities and industry actors are absent. No innovation-related	It provides qualitative evidence on governance practices and community resilience in disaster response. It does not address structural gaps, functional	The study lacks documented government–university–industry collaboration and does not analyze innovation system processes. It does not meet the inclusion criteria.

		interaction among government, university, and industry actors is analyzed.	imbalances, or relational dynamics within an innovation system.	
SID-b867	Exclude	The study examines shrimp farming practices and socio-economic conditions. References to government agencies are incidental and not analyzed as collaborative innovation processes. Universities and structured industry partnerships are absent.	It provides empirical data on production practices, disease management, and economic challenges in shrimp farming. It does not analyze structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no documented government–university–industry collaboration or innovation-related interaction. The study does not satisfy the inclusion criteria.
SID-b868	Exclude	The study analyzes vaccination initiatives in the UAE. It does not document interaction among government, university, and industry actors in innovation processes. Universities are not engaged as institutional partners in innovation.	It contributes to understanding public health logistics and vaccine confidence. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study does not document government–university–industry collaboration and is not situated within the Philippine innovation system. It does not meet the inclusion criteria.
SID-b869	Exclude	The study presents a philosophical and legal analysis of the social function of private property in the Philippines. It does not analyze interaction or collaboration among government, university, and industry actors in innovation processes.	It advances conceptual understanding of property and social function in legal theory. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	There is no empirical evidence of government–university–industry collaboration or innovation-related interaction. The study does not meet the inclusion requirements.
SID-b870	Exclude	The study documents knowledge, attitudes, and practices of seaweed farmers and references engagement with government agencies and a university for training. These interactions are descriptive and limited to extension activities. The study does not analyze structured collaboration, joint innovation processes, or systemic interaction among government, university, and industry actors.	It provides empirical evidence on biosecurity practices and training gaps among seaweed farmers. It does not examine structural gaps, functional imbalances, or relational dynamics within an innovation system.	The study lacks documented, systematic government–university–industry collaboration in innovation processes. It does not meet the strict inclusion criteria for a Triple Helix meta-synthesis.
SID-b871	Exclude	The study examines consumer behavior in Tacloban City toward public markets and grocery stores. It does not document government–university–industry interactions in an innovation or value chain context. The local government’s role	The study identifies determinants of local produce consumption, including price, lifestyle, food quality, product choice, and support for local farmers. It does not analyze structural gaps, functional	The study lacks documented collaboration among government, university, and industry actors and does not address innovation system processes or outcomes. It does not meet the

		is limited to market maintenance. The university's involvement is restricted to participant recruitment. Industry actors (supermarkets and retailers) are not analyzed in relation to government or universities.	imbalances, or relational dynamics within the Philippine innovation system.	inclusion criteria for a Triple Helix meta-synthesis.
SID-b872	Exclude	The study analyzes community perceptions of environmental pressures in Palawan. Government units and universities participated in data collection and consultation. There is no industry involvement and no documented interaction among government, university, and industry actors in innovation processes.	The study explains socio-demographic influences on environmental perceptions and identifies gaps between expert and community assessments. It does not examine innovation system structures or cross-sector collaboration dynamics.	The absence of industry participation and documented government–university–industry collaboration disqualifies the study under Triple Helix inclusion criteria.
SID-b873	Exclude	The study documents university engagement in social innovation and collaboration with government and civil society actors. It does not provide systematic evidence of structured industry participation or documented collaboration among government, university, and industry actors in innovation processes.	The study identifies enablers and barriers to university-led social innovation in LMIC healthcare contexts. It does not analyze national-level innovation system dynamics or structured cross-sector collaboration involving industry.	The study lacks documented government–university–industry collaboration and does not examine innovation system interactions in the Philippine context. It does not satisfy Triple Helix inclusion criteria.
SID-b874	Exclude	The study assesses graduates' perceptions of curriculum relevance to labor market needs. It does not document collaboration, co-design, joint projects, or institutional engagement among government, university, and industry actors.	The study provides evidence on education–employment alignment and employability outcomes. It does not analyze relational, structural, or functional dynamics among innovation system actors.	The study contains no documented government–university–industry interaction and does not address innovation system processes. It does not meet Triple Helix inclusion criteria.
SID-b875	Exclude	The study focuses on student satisfaction at a single university campus. It does not examine interactions among government, university, and industry actors or address innovation processes.	The study contributes internal quality assurance data on student services and teaching performance. It does not examine cross-sector collaboration or innovation system structures.	The absence of documented government–university–industry collaboration and innovation system relevance disqualifies the study under Triple Helix criteria.
SID-b876	Exclude	The study analyzes MSME disaster resilience in Region XII and references	Using Exploratory Factor Analysis on 450 respondents, the study identifies	The study does not document inter-institutional knowledge production, co-

		local government policy frameworks. It does not involve universities and does not document structured collaboration among government, university, and industry actors in innovation processes.	resilience determinants including preparedness, institutional planning, stakeholder support, and mitigation investment. Its scope is limited to enterprise-level resilience and public policy responsiveness.	innovation processes, or structured government–university–industry collaboration. Operational business variables do not constitute Triple Helix interaction. The study fails to meet inclusion criteria.
SID-b877	Exclude	The study presents cross-country quantitative analysis of R&D indicators across government, business, and higher education sectors. It does not document actual collaboration or interaction among these actors in the Philippine context.	The study identifies structural gaps in R&D investment and output in developing economies. It does not analyze relational dynamics or collaborative mechanisms within innovation systems.	The absence of documented government–university–industry interaction and qualitative evidence of collaboration disqualifies the study from inclusion in a Triple Helix meta-synthesis.
SID-b878	Exclude	The study discusses government, restaurants, and online food delivery platforms in prescriptive terms. It does not provide empirical documentation of collaboration among government, university, and industry actors.	The study identifies sustainability challenges related to plastic consumption and proposes stakeholder interventions. It does not analyze structural, relational, or functional dynamics within an innovation system.	The study lacks original empirical evidence of government–university–industry interaction and does not document innovation system collaboration. It does not meet inclusion criteria.
SID-b879	Exclude	The study documents interactions between an indigenous community and local government units. It does not include industry actors or systematic collaboration among government, university, and industry.	The study provides detailed analysis of indigenous disaster risk management and governance gaps. It does not examine innovation processes or cross-sector knowledge collaboration.	The absence of documented government–university–industry interaction and innovation system engagement disqualifies the study under Triple Helix inclusion criteria.
SID-b880	Exclude	The study is a literature review on telehealth applications for elderly patients during COVID-19. It does not document interactions among government, university, and industry actors.	The study synthesizes global findings on telehealth benefits and challenges. It does not analyze structural or relational dynamics within the Philippine innovation system.	The study lacks original empirical research and does not document government–university–industry collaboration. It does not meet the inclusion criteria for a Triple Helix meta-synthesis.
SID-b881	Exclude	The study analyzes consumer behavior toward online grocery applications during COVID-19 in the Philippines. It does not examine government–university–industry interactions. There is no documented collaboration, co-creation, or institutional engagement among these sectors.	The study identifies determinants of digital consumer adoption and behavioral intention in online grocery usage. It does not address structural gaps, relational dynamics, or innovation system processes within the Philippine context.	The study lacks documented government–university–industry collaboration and does not engage with innovation system dynamics. It does not satisfy Triple Helix inclusion criteria.

SID-b882	Exclude	The study evaluates the operational impact of online transactions on small food businesses during the pandemic. It does not investigate interactions among government, university, and industry actors. References to government support are contextual and not analyzed as collaborative innovation processes.	The study provides evidence on marketing, operations, and employment effects of digital adoption among small enterprises. It does not analyze structural or relational dynamics within the innovation system.	There is no documented government–university–industry interaction or innovation-related collaboration. The study does not meet Triple Helix inclusion criteria.
SID-b883	Exclude	The study examines small food businesses’ adaptation to online transactions during COVID-19. It does not document interactions among government, universities, and industry actors. There is no analysis of collaborative innovation processes.	The study provides descriptive findings on sales, costs, and employment changes associated with digital adoption. It does not examine structural gaps, functional imbalances, or relational dynamics within the Philippine innovation system.	The absence of documented government–university–industry collaboration and innovation system engagement disqualifies the study under Triple Helix criteria.
SID-b884	Exclude	The study conducts environmental monitoring of Pasig River water quality. Government agencies are referenced as contextual actors, but there is no empirical investigation of collaboration among government, university, and industry in innovation processes.	The study provides laboratory-based analysis of dissolved organic matter, water quality indices, and seasonal variability. It does not address structural or relational dynamics within the Philippine innovation system.	The study lacks documented government–university–industry interaction and does not analyze collaborative innovation processes. It does not meet Triple Helix inclusion criteria.
SID-b885	Exclude	The study examines academic performance and values of BEED students at the University of Eastern Philippines. It does not involve interactions among government, university, and industry actors or address innovation processes. Descriptive information about parental employment does not constitute institutional collaboration.	The study analyzes relationships between student values, demographics, and academic outcomes. It does not examine structural gaps, functional imbalances, or relational dynamics within the Philippine innovation system.	The study contains no documented government–university–industry collaboration and does not engage with innovation system dynamics. It fails to meet Triple Helix inclusion criteria.
SID-b886	Exclude	The study is focused on plant physiology and rice photosynthesis. It does not address interactions among government, university, and industry actors or institutional collaboration in innovation processes.	The study advances knowledge on rice yield potential and photosynthetic mechanisms. It does not analyze structural, relational, or functional dynamics within the Philippine innovation system.	The absence of documented government–university–industry interaction and innovation system relevance disqualifies the study under Triple Helix inclusion criteria.

SID-b887	Exclude	The study evaluates agritourism viability involving farm owners and local government representatives. It does not document structured collaboration among government, universities, and industry actors in innovation processes.	The study provides financial and operational assessment of a single agritourism site. It does not analyze structural gaps, functional imbalances, or relational dynamics within the Philippine innovation system.	The study lacks documented government–university–industry collaboration and does not examine innovation system interactions. It does not meet Triple Helix inclusion criteria.
SID-b888	Exclude	The study is a philosophical reflection on labor, ethics, and culture. It does not involve empirical investigation of government–university–industry interactions or innovation processes.	The study contributes to moral and cultural analysis of work in the Visayan context. It does not address structural or relational dynamics within the innovation system.	The study provides no documented collaboration among government, university, and industry actors and does not engage with innovation system dynamics. It does not satisfy Triple Helix inclusion criteria.
SID-b889	Exclude	The study focuses on curriculum adaptation within the basic education sector during the pandemic. It discusses government policy and school-level actors but does not involve industry or universities in collaborative innovation processes.	The study analyzes curriculum implementation challenges, teacher autonomy, and student assessment in remote learning. It does not examine structural or relational dynamics among government, university, and industry actors.	There is no documented government–university–industry collaboration or innovation system interaction. The study does not meet Triple Helix inclusion criteria.
SID-b890	Exclude	The study addresses curriculum adaptation within the education sector during the pandemic. It references government policy but does not document engagement with industry or universities in innovation processes.	The study provides evidence on structural and functional challenges in emergency curriculum implementation. It does not analyze relational or structural dynamics within the broader innovation system.	The absence of documented government–university–industry collaboration and innovation system relevance disqualifies the study under Triple Helix inclusion criteria.
SID-b891	Exclude	The study involves local government units, Central Mindanao University, and farmer-cooperators. The “industry” component consists of smallholder farmers rather than formal private-sector enterprises. Documented interactions are limited to university-led technology transfer and training facilitated by local government. There is no evidence of collaborative, iterative innovation processes among government, university, and industry actors.	The study identifies determinants of cacao plantation performance, including prior learning, farm visit frequency, and technology adoption. It informs agricultural extension practice but does not examine structural gaps, functional imbalances, or relational dynamics within the Philippine innovation system.	The study does not document structured government–university–industry collaboration or innovation system interaction. Knowledge transfer is unidirectional and does not constitute co-innovation. It does not meet Triple Helix inclusion criteria.

SID-b892	Exclude	The study involves government agencies (DA-PRDP, municipal agriculture offices) and university researchers conducting vulnerability assessment. There is no documented participation of private industry actors in collaborative innovation or decision-making processes. The interaction structure reflects assessment and recommendation rather than multi-actor innovation collaboration.	The study provides empirical evidence on climate vulnerability and adaptive capacity of shrimp farmers and vendors. It identifies structural constraints such as limited market access and environmental risks but does not analyze relational or functional dynamics among government, university, and industry actors.	The study lacks documented government–university–industry collaboration in innovation processes. It does not examine systemic interaction or co-production of innovation outcomes. It fails to satisfy Triple Helix inclusion criteria.
SID-b893	Exclude	The study involves local government entities and university researchers assessing water system performance. References to private concessionaires and civil society appear only in recommendations. There is no empirical documentation of active collaboration among government, university, and industry actors in innovation processes.	The study provides data on water service coverage, losses, regulatory compliance, and consumer satisfaction. It identifies structural deficiencies in water distribution but does not analyze relational or functional dynamics across government, university, and industry sectors.	The study does not document structured government–university–industry interaction or innovation system engagement. It does not meet Triple Helix inclusion criteria.
SID-b894	Exclude	The study focuses on university students who dropped out and later returned. References to public education policy are contextual. There is no documented interaction among government, university, and industry actors in innovation processes.	The study analyzes financial, familial, health, and peer-related factors influencing student dropout and return. It does not examine structural or relational dynamics within the Philippine innovation system.	The study contains no documented government–university–industry collaboration or innovation system interaction. It does not satisfy Triple Helix inclusion criteria.
SID-b895	Exclude	The study analyzes consumer demand for packaged rice and regulatory implications. It does not document empirical collaboration among government, university, and industry actors in innovation processes.	The study identifies socioeconomic drivers of packaged rice demand and retail modernization patterns. It does not analyze structural gaps, relational dynamics, or institutional collaboration within the Philippine innovation system.	There is no documented government–university–industry interaction or co-innovation process. The study does not meet Triple Helix inclusion criteria.
SID-b896	Exclude	The study examines leadership experiences of Filipino school administrators abroad. It does not document interactions among government, university, and industry	The study contributes to educational leadership and professional development literature. It does not address structural gaps, relational dynamics, or systemic innovation processes in the Philippine context.	The study lacks empirical evidence of government–university–industry interaction and does not engage with innovation system dynamics. It does not meet Triple Helix inclusion criteria.

		actors, nor does it analyze innovation processes or institutional collaboration.		
SID-b897	Exclude	The study is a theoretical comparison of Marxian economics and new institutional economics. It does not provide empirical analysis of government–university–industry interactions within an innovation system.	The paper advances conceptual understanding of economic theory, firm structure, and transaction costs. It does not examine structural or relational dynamics among institutional actors in the Philippine innovation system.	The study contains no empirical documentation of government–university–industry collaboration or innovation processes. It does not satisfy Triple Helix inclusion criteria.
SID-b898	Exclude	The article includes anecdotal references to collaboration with Silliman University and policy influence in fisheries. It does not present systematic empirical analysis of government–university–industry innovation processes.	The article is biographical in focus and does not analyze structural gaps, relational dynamics, or innovation governance mechanisms in the Philippine context.	The article is not original empirical research and does not document structured government–university–industry collaboration. It does not meet Triple Helix inclusion criteria.
SID-b899	Exclude	The study focuses on female students’ experiences during the COVID-19 pandemic. It does not examine interactions among government, university, and industry actors or innovation-related collaboration.	The study provides insights into social and educational challenges faced by students. It does not address institutional, relational, or systemic innovation dynamics.	There is no documented government–university–industry interaction or innovation system engagement. The study does not meet Triple Helix inclusion criteria.
SID-b900	Exclude	The study examines women’s empowerment in fisheries livelihoods and references support from government agencies and international organizations. It does not analyze collaboration among government, university, and industry actors in innovation processes.	The study provides empirical evidence on empowerment, access to resources, and socio-economic participation in fisheries. It does not examine structural gaps, relational dynamics, or co-innovation processes within the Philippine innovation system.	The study lacks documented government–university–industry interaction and does not analyze innovation system dynamics. It does not satisfy Triple Helix inclusion criteria.
SID-b901	Exclude	The study examines employee attitudes toward work during COVID-19 across government and private sectors. It does not analyze interactions among government, universities, and industry in relation to innovation, knowledge exchange, or institutional collaboration.	The study provides insights into employee perceptions, coping mechanisms, telecommuting, and organizational support during crisis conditions. It does not address structural gaps, relational dynamics, or innovation processes within the Philippine innovation system.	The study contains no documented government–university–industry interactions and no evidence of collaborative innovation or coordinated institutional engagement. It does not meet Triple Helix inclusion criteria.
SID-b902	Exclude	The study analyzes consumer preferences and market segmentation among work-from-home Internet subscribers and service providers. It does not document	The study contributes to understanding consumer behavior and service attribute valuation in the telecommunications sector. It does not analyze structural gaps,	There is no empirical evidence of government–university–industry collaboration or innovation-related

		interactions among government, universities, and industry actors or examine policy coordination or collaborative innovation processes.	functional imbalances, or relational dynamics within the Philippine innovation system.	interaction. The study does not satisfy Triple Helix inclusion criteria.
SID-b903	Exclude	The study examines motivation, performance, and productivity in the hospitality sector. References to provincial government tourism promotion and accreditation are contextual. The study does not analyze collaboration or knowledge exchange among government, universities, and industry actors.	The article advances understanding of human resource management and productivity in local hospitality enterprises. It does not address structural gaps, relational dynamics, or innovation system coordination across institutional spheres.	The study lacks documented government–university–industry interaction and does not examine innovation processes or collaborative governance. It does not meet Triple Helix inclusion criteria.
SID-b904	Exclude	The study investigates occupational health and safety in small-scale gold mining. Although government agencies are referenced and authors are university-affiliated, the study does not analyze collaboration, knowledge exchange, or co-production among government, universities, and industry actors.	The article documents hazard exposure and informal work practices in small-scale mining. Its contribution is sectoral and occupational, not innovation-system oriented.	There is no documented government–university–industry collaboration or innovation-related interaction. The study does not meet Triple Helix inclusion criteria.
SID-b905	Exclude	The study surveys delivery riders and examines working conditions in the platform economy. It references government regulations and industry actors but does not analyze coordinated roles, collaboration, or innovation processes involving government, universities, and industry. Universities appear solely as research institutions.	The article identifies occupational health and regulatory gaps in the delivery sector during COVID-19. It does not address structural gaps or relational dynamics within the Philippine innovation system.	The study does not document government–university–industry collaboration or innovation system interaction. It fails to meet Triple Helix inclusion criteria.
SID-b906	Exclude	The study examines alternative working arrangements across hotel and restaurant, education, and government sectors. These sectors are treated as independent respondent categories. The study does not analyze interactions, co-production, or knowledge linkages among government, universities, and industry actors.	The article contributes to understanding productivity and workforce management during COVID-19. It does not examine structural gaps, relational dynamics, or coordinated innovation processes across institutional spheres.	Despite covering multiple sectors, the study contains no documented government–university–industry interaction or innovation-related collaboration. It does not meet Triple Helix inclusion criteria.

SID-b907	Exclude	The study presents a qualitative case study of one individual's work life and advocacy. References to government, academe, and professional sectors are contextual and biographical. The study does not systematically analyze government–university–industry interactions or coordinated innovation processes.	The article contributes to gerontology and meaning-of-work scholarship. It does not address structural gaps, relational dynamics, or innovation system coordination.	The study lacks empirical documentation of government–university–industry collaboration and does not analyze innovation processes. It does not satisfy Triple Helix inclusion criteria.
SID-b908	Exclude	The study analyzes working capital management practices of microenterprises. Government policy is referenced as background context. There is no empirical examination of interactions among government, universities, and industry actors.	The article advances understanding of financial management and sustainability constraints at the firm level. It does not analyze structural or relational dynamics within the Philippine innovation system.	The study does not document government–university–industry interaction or collaborative innovation processes. It does not meet Triple Helix inclusion criteria.
SID-b909	Exclude	The study focuses on empowerment, resources, and organizational commitment in public elementary schools. It does not examine interactions among government, universities, and industry or analyze cross-sector collaboration or innovation linkages.	The article contributes to educational management and organizational behavior research. It does not address structural gaps, relational dynamics, or innovation system coordination.	The study contains no documented government–university–industry collaboration or innovation-related interaction. It fails to meet Triple Helix inclusion criteria.
SID-b910	Exclude	The study documents culinary heritage in Luzon through interviews with local government offices, culinary practitioners, and NGOs. Universities do not function as institutional collaborators in innovation networks, and industry actors are treated as informants rather than partners in coordinated innovation processes. There is no analysis of structured government–university–industry interaction.	The article provides systematic cultural documentation of 101 pancit variations, including ingredients, preparation methods, tools, and consumption practices. Its contribution centers on heritage safeguarding and regional identity, not innovation system development.	The study does not document formal collaboration or coordinated innovation processes among government, universities, and industry actors. It does not analyze structural or relational dynamics characteristic of Triple Helix systems. It does not meet inclusion criteria.
SID-b911	Exclude	The study examines zero-waste sari-sari stores and retailer perceptions. References to government subsidies and policies are contextual. Universities are	The study documents grassroots environmental practices and waste reduction strategies using a phenomenological design. Its	The study does not document government–university–industry interaction or collaborative innovation processes. It does not analyze structural

		not examined as innovation actors, and industry participation is limited to individual micro-retailers without inter-institutional linkage. There is no documented government–university–industry collaboration.	contribution is limited to small-scale retail behavior and environmental awareness.	or relational dynamics within an innovation system. It does not meet Triple Helix inclusion criteria.
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