ATENEO DE MANILA UNIVERSITY

DOST-PCIEERD

CARAGA STATE UNIVERSITY PHILIPPINES

Competency Development and Training Needs Analysis for Technology Transfer Officers of the IMPACT Network

First Quarter Report

(for the period August 16, 2025 to November 15, 2025)

November 2025

Table of Contents

Executive Summary

The first quarter of the IMPACT-NXT Project (16 August to 15 November 2025) focused on foundational research, early data gathering, stakeholder alignment, and the successful implementation of the first-ever IMPACT Local Conference in Bacolod on 5–6 November 2025.

The project team completed extensive desk research, conducted four (4) different versions of pilot surveys to validate concepts and identify usability issues, and finalized the methodology to be used for developing the Philippine Technology Transfer (TT) Competency Framework. Initial institutional approvals were secured, and early survey responses were collected during the quarter.

A major highlight of the quarter was the organization and conduct of the first IMPACT Local Conference, despite significant challenges brought by Typhoon Tino. The event was successfully delivered and served as a national convening of TTO stakeholders, setting the stage for smoother implementation of the competency framework and TNA processes.

Other notable accomplishments include the study of the WIPO Training Needs Assessment (TNA) Toolkit, securing AToP's willingness to assist in the TNA, and deferring the assessor selection process to a later quarter to ensure alignment with the forthcoming draft of the competency framework.

Overall, the project is generally on track, with key preparatory activities completed and critical partnerships secured.

Chapter 1: Introduction and Overview of Accomplishments

The IMPACT-NXT Project is a major national initiative focused on strengthening technology transfer capacity in Philippine Higher Education Institutions (HEIs) and Research and Development Institutes (RDIs). The project responds to persistent gaps in TTO structure, capability, and professionalization, and aims to deliver:

- A contextualized Competency Framework for TTO personnel
- A Training Needs Analysis (TNA) tool tailored to local conditions
- A full competency assessment of 34 universities and RDIs
- Three competency development plans and training roadmaps (Basic, Responsive, Progressive TTOs)
- A Policy Proposal for sustaining skills development and professionalizing TTO roles

This first quarter laid the foundations for these outputs.

1.1 Project Objectives

The accomplishments during this quarter directly support the following project objectives:

Table 1. Summary of Accomplishments this Quarter

OBJECTIVES	TARGET ACTIVITIES	1ST QUARTER ACCOMPLISHMENTS
Customize the Competency Framework for Philippine TTOs	● Desk research on benchmarks, role of universities/RDIs (and especially TTOs) in innovation value chains (5%) ● Review/gathering of relevant documents/data for contextualization (5%) - PH innovation agenda - Laws and policies ● Initial survey to gather data on existing organizational contexts (existing competency frameworks used, objectives and mission-vision statements, job descriptions or terms of references of existing technology transfer relevant roles) ● *Drafting of the initial competency framework, for further validation (5%)*	● Completed the desk research ● Conducted several 4 different versions of pilot surveys ● Secured ADMU Ethics clearance for the survey ● Finalized methodology for developing the PH TT Competency Framework ● Partially secured Institutional Go-Signal for participation in the survey ● Collected initial responses to the survey ● **Organized and held the first IMPACT local conference (15%)**
Implementing a Competency Assessment (which includes Training Needs Analysis) based on the proposed competency framework for the IMPACT university TTOs (20%)	● Pre-TNA Assessment activities: - Defining the selection criteria for assessors - *Selection of candidates for assessors (4%)*	● Studied the WIPO toolkit on TNA ● Secured AToP's willingness to participate/assist in the TNA ● Drafted selection criteria for assessors ● *Selection of candidates was pushed to a later quarter (after the first draft of the competency framework is available), the task of defining selection criteria and listing possible candidates for assessors*
		Other/Extra Accomplishments:

		• Onboarding document for new members of the IMPACT-NXT project team, some portions of which can also be used to onboard new members of the office (AIPO). See here.

1.2 Financial Status

[Refer to attached Form 8]

Chapter 2: Detailed First Quarter Activities and Accomplishments

2.1 Methodology Development

2.1.1 Main Methodologies Examined

The first quarter covered a critical review of established methodologies for competency framework development and training needs assessment. This review was undertaken to avoid adopting an off-the-shelf model and instead inform the design of a methodology responsive to the specific realities of the Philippine technology transfer (TT) ecosystem.

There is no single, globally dominant or formally named methodology that is specific only to developing a Technology Transfer (TT) Core Competency Framework—in the way that, say, PRINCE2 exists for project management or SFIA for ICT skills.

The following major methodological approaches were examined in this study in our attempt to define a good pathway to build a Philippine TT competency framework that is adapted to the unique legal, deal-based, and ecosystem-driven nature of technology transfer:

Table 2. US Department of Labor Competency Model Development

Source: CareerOneStop Competency Model Development Guide

Five-Step Development Process:

Step	Activities	Validation Criteria	Quality Standards

1. Gather Background Information	Catalog existing resources, and organize resources systematically	Comprehensive literature review, stakeholder mapping	Complete resource inventory, systematic organization
2. Develop Draft Framework	Identify themes and patterns, use a tiered pyramid structure	Pattern recognition, logical structure development	Coherent framework architecture, clear competency definitions
3. Gather Expert Feedback	Minimum 6 experts, ideally 12-15 SMEs	Expert panel composition, diverse expertise representation	Subject matter expertise validation, comprehensive coverage
4. Refine Framework	Apply the 80/20 rule (80% agreement from SMEs)	Statistical consensus measurement, expert agreement analysis	Quantitative validation, stakeholder consensus
5. Validate Framework	Use a collaborative and iterative validation process	Multi-stakeholder validation, iterative improvement	Final validation, implementation readiness

Table 3. Healthcare Competency Framework Development (Six-Step Model)

Source: PMC - Six-Step Model for Healthcare Competency Frameworks (2021)

Systematic Six-Step Approach:

Step	Purpose	Methods	Deliverables
1. Identify Purpose, Uses, Scope, Stakeholders	Define framework objectives and boundaries	Stakeholder analysis, scope definition workshops	Framework charter, stakeholder map, scope document
2. Theoretically Informed Context Identification	Establish a theoretical foundation	Literature review, theoretical framework selection	Theoretical foundation document, conceptual model
3. Aligned Methods for Practice Exploration	Select appropriate research methods	Method selection, validation approach design	Research methodology framework, data collection plan

4. Identification and Specification of Competencies	Define specific competencies	Competency identification, specification workshops	Detailed competency specifications, behavioral indicators
5. Reporting Process and Outputs	Document framework and findings	Report writing, stakeholder communication	Comprehensive framework document, implementation guide
6. Evaluation, Update, Maintenance Strategies	Ensure framework sustainability	Evaluation planning, update mechanisms design	Maintenance plan, evaluation framework, update procedures

Table 4. Survey Validation Framework for Competency Development

Source: ResearchGate - Survey Questionnaire Development and Validation

Multi-Stage Validation Process:

Stage	Validation Type	Methods	Statistical Requirements
Stage 1	**Design and Development**	Content development, item generation	Expert panel review, content adequacy assessment
Stage 2	**Reliability Testing**	Internal consistency measurement	Cronbach's alpha coefficient > 0.70
Stage 3	**Validity Assessment**	Face, Content, Construct, Criterion validity testing	Content Validity Index (CVI), statistical validation
Stage 4	**Statistical Analysis**	Advanced statistical validation	EFA, CFA, SEM, IRT analysis

As part of the review of validation methodologies, the project team examined the Content Validity Index (CVI), a structured and quantitative approach commonly used in competency framework and survey development. CVI relies on systematic expert evaluation to determine whether survey items are relevant, clear, and representative of the intended constructs, and it offers explicit acceptance thresholds that support transparent and defensible instrument validation.

Content Validity Index (CVI) Approach:

Assessment Component	Rating Scale	Acceptance Criteria	Expert Requirements

Four-point Expert Rating	1-4 point relevance scale	Item-level CVI ≥ 0.78, Scale-level CVI ≥ 0.90	Minimum 3 experts, optimal 5-10 experts
Quantitative Content Adequacy	Statistical measurement of content relevance	80% expert agreement threshold	Subject matter expertise validation
Item Relevance Assessment	Individual item evaluation	Statistical significance testing	Expert consensus measurement

2.1.2. Methodology for the Draft PH TT Core Competency Development

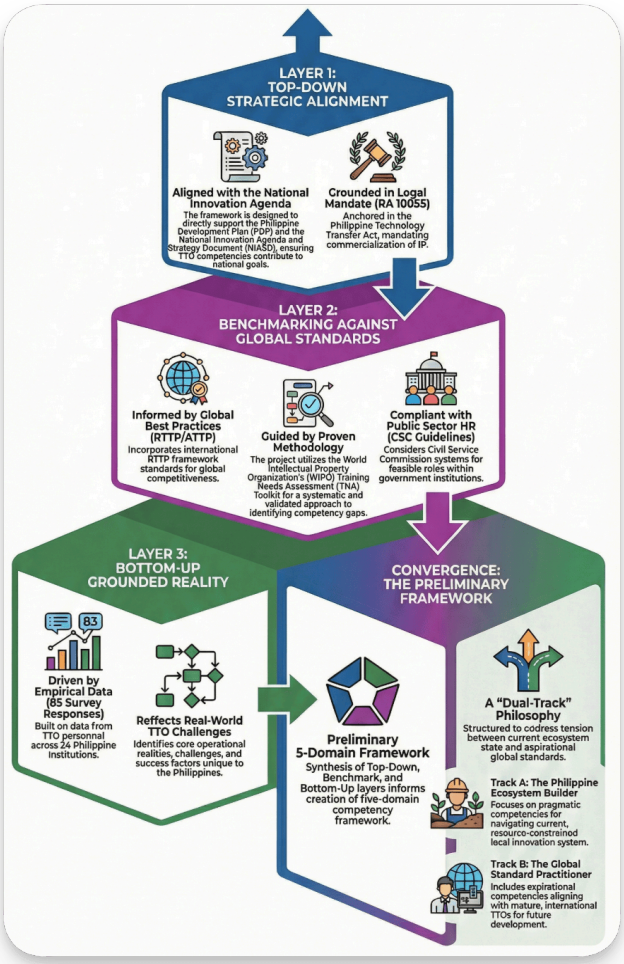

Figure 1. Methodology for Building the Draft Philippine TTO Competency Framework [for further validation]

While the project team reviewed multiple international methodologies for competency framework development and survey validation, the IMPACT-NXT project ultimately adopted a **customized, mixed-method, and multi-layer validation approach** designed specifically for the Philippine technology transfer ecosystem.

The finalized methodology combines **top-down contextual anchoring** with **bottom-up competency extraction**. At the top-down level, national policy objectives, legal frameworks (particularly RA 10055), institutional mandates, and structural realities of HEIs, SUCs, and RDIs were used to frame the scope, boundaries, and interpretation of competencies. This ensured alignment with Philippine innovation priorities and avoided direct transplantation of foreign competency models.

At the bottom-up level, competencies are derived from **actual technology transfer tasks, lived difficulties, and structural constraints** experienced by practitioners. This was operationalized through an iterative "situationer" survey instrument, refined through multiple pilots, and designed to elicit both current and forward-looking competency needs. Quantitative responses provide breadth and saturation, while open-ended responses enable qualitative extraction of task-based competencies.

Core competency validation is conducted primarily through Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) with senior technology transfer practitioners, institutional leaders, and policy stakeholders. These qualitative validation mechanisms are particularly suited to technology transfer, where competencies are highly contextual, judgment-based, and shaped by legal, institutional, and ecosystem constraints. Methodological rigor is ensured through structured interview guides, triangulation across KIIs and FGDs, representation across HEIs, SUCs, and RDIs, and convergence analysis of validation findings. Principles drawn from established frameworks (e.g., WIPO TNA and expert consensus models) guide the validation process, while avoiding strict psychometric protocols that are less appropriate for ecosystem-level competency frameworks.

Overall, the finalized methodology prioritizes **contextual relevance, practical validity, and implementation readiness**, ensuring that the resulting Philippine Technology Transfer Core Competency Framework is grounded in real practice, responsive to institutional diversity, and defensible to both academic and policy audiences.

2.2 Foundational Work based on the Finalized Methodology

This foundational work corresponds to the execution of the initial methodological steps, encompassing top-down contextual anchoring, targeted desk research, and the iterative development of a "bottom-up" situationer tool.

2.2.1 Top-Down Anchoring: Clarifying Philippine TT Purpose & Context

The development of the Philippine Technology Transfer (TT) Core Competency Framework began with a **top-down anchoring exercise** grounded in desk research. This step ensured that the competency development effort was situated within the Philippine policy, legal, and institutional context before proceeding to bottom-up competency extraction.

Specifically, the team aligned the framework development with the following:

- National innovation objectives (DOST, IPOPHL, CHED, NEDA)
- RA10055 requirements
- Existing constraints and mandates for publicly funded research
- Realities of academic vs. RDI TT structures
- Sustainability and incentivization challenges of HEI/RDI TTOs

This top-down anchoring provided a macro-policy lens that guided subsequent methodological steps and ensured that the resulting competency framework reflects Philippine strategic intent and institutional realities, rather than directly replicating foreign models.

2.2.2 Completion of Desk Research

Building on the established methodological direction of the project, the team undertook **targeted desk research** to support the development of the Philippine Technology Transfer (TT) Core Competency Framework. The purpose of this review was to ensure that competency identification and validation would be informed by relevant international references, national policies, and on-the-ground operational realities.

The desk research mainly covered the following areas:

- RTTP/ATTP competency domains (benchmark-only, not adopted as-is)
- WIPO TNA Manuals, TTO Capability Framework methodology (The team conducted a thorough study of the WIPO TNA Manual and Toolkit, which will guide (1) Structure of the TNA instruments, (2) Assessor training approach and (3) Adoption of multi-layer validation)
- Philippine IP ecosystem, including RA10055, IPOPHL procedures, CHED mandates
- DOST funding rules, TLO responsibilities, and reporting obligations
- ACTUAL TT tasks happening in IMPACT institutions (preliminary review)

This desk research provided a **common evidence base** for subsequent survey design, competency extraction, and validation activities, ensuring coherence between international references, national policy requirements, and local practice.

2.2.3 Situationer Survey Instrument Development and Piloting

Following the completion of desk research, the project team developed and iteratively refined the Philippine Technology Transfer (TT) situationer survey instrument, designed to support bottom-up extraction of competencies from actual practice. The instrument was intentionally structured to surface not only tasks performed by TTOs, but also the contextual challenges and future-oriented competency needs specific to the Philippine setting.

In total, four versions of the draft survey instrument were developed and piloted. These iterations reflected both the project's initial design assumptions and subsequent refinements based on pilot feedback. The final pilot version was guided by the following core principles:

- Competencies must be derived from actual tasks, rather than from abstract or purely theoretical constructs
- Survey must include lived difficulties and structural constraints encountered by practitioners (addressed through the first few open-ended questions)
- Forward-looking, PH-specific competency needs must be captured, beyond current-state capabilities (addressed through the third set of open-ended questions)

Across pilot rounds, the team assessed:

- User comprehension
- Logical flow
- Clarity of question intent
- Respondent burden
- Alignment with the bottom-up extraction of competencies

Pilot results indicated strong comprehension, manageable respondent burden, and close alignment with the project's competency extraction objectives. Based on these results, the refined situationer survey instrument was finalized and is currently being deployed across IMPACT institutions.

2.2.4 Situationer Survey Instrument Deployment

Following the finalization of the situationer survey instrument, the project team proceeded with **systematic deployment across the IMPACT network institutions**. Deployment focused on achieving broad institutional coverage while ensuring sufficient response volume to support reliable bottom-up competency extraction.

As of the reporting period, participation metrics indicate **strong overall uptake and adequate data saturation**. A total of **30 out of 34 target institutions (88%)** submitted responses, yielding **83 completed survey responses** against a target of 90 (92% achievement). Importantly, the **data**

saturation threshold of 30 responses, as validated by external consultants, was fully met, supporting the sufficiency of the dataset for competency analysis.

Coverage across institution types was likewise robust. Responses were received from **15 of 16 SUCs (94%)**, **11 of 12 HEIs (92%)**, and **4 of 6 RDIs (67%)**. While RDI participation remains comparatively lower, the responses received nevertheless provide meaningful representation of RDI-specific technology transfer contexts and will be supplemented, where necessary, through subsequent validation activities such as KIIs and FGDs.

Overall, the deployment results demonstrate **strong institutional engagement and readiness for subsequent framework drafting and validation stages**. The table below summarizes the key participation and coverage metrics, followed by a timeline illustrating response accumulation by project week.

Table 5. Survey Metrics (as of Dec 15)

Metric	Target	Actual	% Achievement
Total Institutions	34	30	88%
Total Responses	90	83	92%
Data Saturation Threshold (consultant validated)	30	30	100%
RDI Coverage	6	4	67%
HEI Coverage	12	11	92%
SUC Coverage	16	15	94%

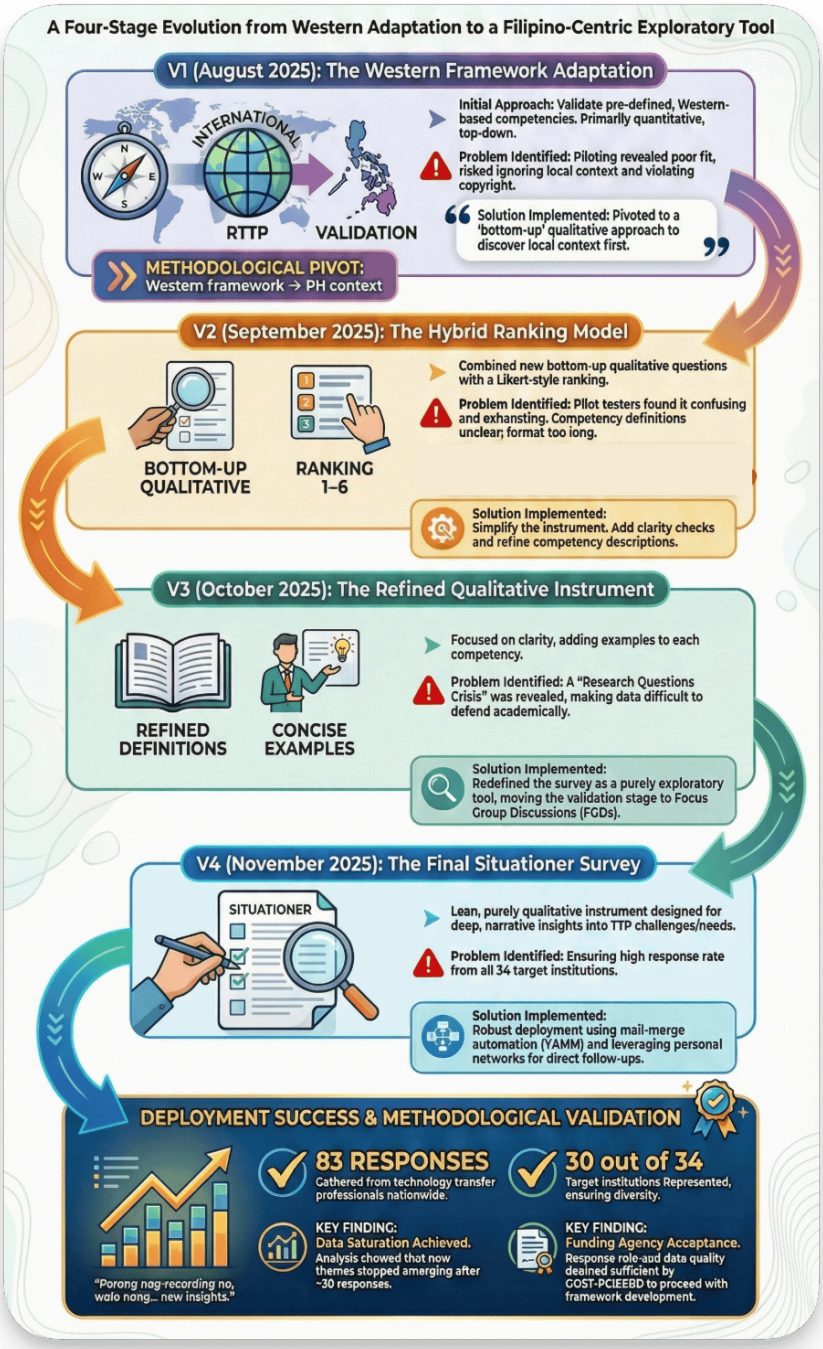

Figure 2. Evolution of Data Instrumentation of the IMPACT NXT Project Team

2.3 Formulation of Assessor Selection Criteria

Parallel to the instrument development, the project team drafted the selection protocols for the External Assessors who will validate the TNA results. Recognizing the scarcity of RTTP-certified professionals in the Philippines, the criteria were contextualized to prioritize "Experience Equivalency" over formal certification. The finalized draft criteria focus on senior practitioners with verifiable "deal sheets" (e.g., successful licensing agreements, spin-offs) and active membership in the Alliance of Technology Transfer Professionals of the Philippines (AToP). This approach ensures that the assessment panel will possess both technical expertise and deep relevance to the local ecosystem.

Additionally, we were able to secure AToP (Alliance of Technology Transfer Professionals of the Philippines) expressed cooperation with the project team to ensure that all pertinent objectives are achieved.

2.4 First IMPACT Local Conference

A major accomplishment in this (first) quarter, which was originally planned for the second quarter was the organizing of the the first-ever IMPACT conference, "*SalikSYNC: 1st National IMPACT Conference*." Despite the challenges posed by Typhoon Tino, the conference was successfully held in Bacolod on November 5–6, 2025, convening nearly all IMPACT network institutions from HEIs, SUCs, and RDIs nationwide. The event highlighted strong national momentum in research commercialization and capacity building in IP management, technology transfer, and startup development. In his keynote, DOST Secretary Renato U. Solidum, Jr. underscored the importance of research translation, asking, "What good is a breakthrough if it never breaks through?"—a message that resonated throughout sessions featuring success stories, capability-development discussions, and cross-sector strategic dialogues.

An important milestone within the conference was the ceremonial signing of the MOU among 34 IMPACT institutions, formalizing their shared commitment to strengthen TTO functions and to actively participate in the IMPACT-NXT project activities. Overall, the conference served as a strong launchpad for the project's first-quarter objectives, generating momentum for survey deployment, framework development, and future training activities while demonstrating the collective resolve to advance research translation and innovation capacity across the country.

There were several major challenges encountered by the team related to organizing the conference. The first was the manual registration, which created logistical bottlenecks during check-in and made real-time participant tracking difficult. Another was the multiple flight rebookings for conference participants traveling to Bacolod due to the Typhoon Tino. Rebooking fees and emergency accommodation added a significant amount to unplanned costs.

Overall, however, the conference was deemed to be a success. We have also published a non-academic article about this (refer to Annex C).

Chapter 3: First Quarter Assessment and Next Steps

3.1 Form-based Assessment of Activities and Accomplishments

(Refer to attached Form 6)

3.2 Upcoming Activities and Recommendations for the Second Quarter

Target Period: November 16, 2025 – February 15, 2026 (Months 4, 5, and 6)

The Second Quarter (Q2) marks a critical shift from foundational research and stakeholder alignment to **active instrument development, data collection, and framework validation**. With the ethical clearance secured and the network formally committed via the *SalikSYNC* MOU, the project team is positioned to execute the core technical phases of Objectives 1 and 2.

The following activities and recommendations are prioritized for Q2:

3.2.1 Priority Activities

- **Completion of Survey Response Collection:** The immediate priority for Months 4 is to complete the collection of survey responses across the IMPACT network. Continued follow-ups will be undertaken to improve coverage across HEIs, SUCs, and RDIs and to ensure adequate representation by institution type and role. Completing this step is critical to strengthening the evidence base for competency extraction and to ensuring that the subsequent framework draft reflects ecosystem-wide realities.
- **Completion of the Initial Framework Draft:** The next priority for Month 4-5 is to consolidate the findings from the Q1 desk research and benchmarks (ATTP, WIPO, CSC) and the 80+ responses into the first full draft of the *Philippine Technology Transfer Competency Framework*. This activity is critical to recover the slight timeline variance incurred during the conference preparations.
- **Key Informant Interviews (KIIs):** To ensure the framework is market-responsive, the team will commence KIIs with downstream innovation stakeholders, including representatives from industry associations, investors, startups, and MSMEs. This activity targets a 5% weight completion.
- **Validation Workshops (FGDs):** Simultaneous with industry interviews, the team will initiate Focus Group Discussions with TTO Directors and academic stakeholders to validate the framework's applicability to the diverse institutional contexts (SUCs, HEIs, RDIs) within the IMPACT network.

ANNEX SECTION

Annex A: Finalized Survey Tool