

Lecturers as Knowledge Brokers in Maritime Digital Business Education: A Thematic Analysis

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Abstract

Maritime vocational lecturers occupy a structurally distinctive knowledge intermediary position: former practitioners maintaining active or residual industry connections while simultaneously holding academic curriculum delivery responsibilities, they function — formally or informally — as channels through which rapidly evolving digital business knowledge from maritime industry practice is translated into classroom instructional content. This knowledge brokering function, while institutionally under-recognized and unsupported, may constitute the most agile knowledge update mechanism available to maritime vocational institutions whose formal curriculum revision processes operate on multi-year cycles misaligned with the monthly pace of digital business transformation in port and shipping contexts. This study examines lecturers as knowledge brokers in maritime digital business education through qualitative focus group discussions with 30 STIP Jakarta lecturers across Port and Shipping Management (PSM), Deck Nautical (DN), and Marine Engineering (ENG) programs. Thematic analysis generates four themes: Informal Industrial Intelligence Networks, Tacit-to-Explicit Knowledge Translation, Structural Support Deficit, and Differential Brokering Capacity. PSM lecturers exhibit the most active and digitally current brokering networks; former seafarer lecturers across all three programs demonstrate substantially stronger brokering capacity than non-seafarer colleagues. The study contributes the first knowledge-broker-framed analysis of maritime vocational lecturer roles and provides specific institutional support recommendations for formalizing and amplifying STIP Jakarta's lecturer knowledge-brokering function as a digital business curriculum agility mechanism.

1. Introduction

Knowledge brokering — the process through which individuals positioned at the intersection of multiple communities of practice transfer knowledge across community boundaries, enabling each community to access information and insights generated in contexts they do not directly inhabit — has been theorized and empirically examined across diverse organizational and professional contexts, from product development firms [1] to public health policy networks [2] to technology transfer ecosystems [3]. The knowledge broker's defining characteristic is positional: they sit at the boundary between communities with different knowledge

bases, enabling information to flow across that boundary rather than remaining isolated within each community's internal knowledge circulation. Maritime vocational lecturers — particularly those who are former or active practitioners — occupy precisely this boundary position between the maritime industry's digital business knowledge environment and the academic knowledge environment of maritime vocational education, making them potentially powerful knowledge brokering actors whose function has not been theorized or empirically studied in the maritime education context.

The urgency of this knowledge brokering function is accentuated by the specific character of the digital business knowledge that maritime institutions most need to incorporate. Digital business transformation in port and logistics contexts — encompassing freight-tech platform developments, smart port technology deployments, e-commerce integration with maritime logistics, and AI-driven scheduling and optimization tools — is evolving at a pace that formal academic knowledge production processes, which typically involve research, peer review, textbook production, and curriculum update cycles spanning multiple years, cannot track in real time [4]. A lecturer who attended an industry conference last month, spoke with a former shipmate now working on a logistics platform startup, or was briefed by a port authority colleague on a new digital terminal operating system upgrade possesses knowledge of genuine curriculum relevance that the formal academic content pipeline has not yet captured and may not capture for years. The informal knowledge brokering function through which this practitioner-knowledge reaches classrooms — through a lecture anecdote, a case study adaptation, a supplementary reading recommendation, or a revised assessment scenario — constitutes a genuinely valuable curriculum agility mechanism whose systematic study and institutional recognition is this study's central contribution.

At Sekolah Tinggi Ilmu Pelayaran Jakarta, the lecturer community spans a spectrum of practitioner-academic identity positions: from recent former practitioners who maintain dense maritime industry social networks alongside comparatively thin academic knowledge production histories, to career academics who have never held commercial maritime employment but possess strong pedagogical and disciplinary knowledge frameworks, with multiple intermediate positions in between. This spectrum creates a natural variation in knowledge brokering capacity and orientation that program-stratified FGD analysis can illuminate, enabling identification of the specific lecturer profiles most productively positioned as knowledge brokers and the institutional conditions most consequential for activating or suppressing their brokering function.

This study pursues three objectives: first, to characterize the informal knowledge brokering practices that STIP Jakarta lecturers across three programs describe as currently occurring within their teaching — identifying the channels, content categories, and classroom translation strategies through which industry digital business knowledge reaches students through lecturer intermediation; second, to examine between-program and within-program variation in knowledge brokering capacity and orientation, identifying the lecturer profile and program context factors most strongly associated with active brokering; and third, to identify the institutional structural barriers that suppress lecturer knowledge brokering capacity and the support mechanisms that expert participants identify as most likely to amplify and formalize this function.

1.1 Theoretical Framework

This study integrates three theoretical frameworks providing the analytical architecture for knowledge-broker-framed maritime lecturer analysis. Hargadon and Sutton's [1] technology brokering theory, developed through ethnographic study of product development firms that systematically transferred knowledge across industry boundaries, establishes the operational definition of knowledge brokering applicable to this study: the systematic collection of knowledge from one context, the recognition of its potential value in a different context, and the translation of that knowledge across the contextual boundary in a form actionable by the receiving community. Applied to maritime vocational lecturers, this framework specifies the three brokering sub-functions this study examines: knowledge collection (maintaining industry connections through which current digital business knowledge is accessed), translation (converting practitioner-context knowledge into pedagogically deployable classroom content), and transfer (actually deploying the translated knowledge in instructional contexts in ways that produce learning relevant to students' professional formation).

Wenger's [5] communities of practice theory provides the complementary conceptual vocabulary for understanding why the knowledge brokering position is potentially valuable and structurally challenging simultaneously. Maritime industry digital business practitioners and maritime academic instructors constitute distinct communities of practice with different knowledge validation norms (industry performance metrics vs. academic peer review), different temporal horizons (real-time operational relevance vs. multi-year pedagogical sequence coherence), and different social roles (generating commercial value vs. forming professional competency). A lecturer who inhabits both communities — through active industry ties alongside academic employment — must negotiate fundamentally different epistemic standards in their dual community membership, a negotiation whose successful management requires both professional identity flexibility and institutional support that academic institutions often do not deliberately provide.

Nonaka and Takeuchi's [6] knowledge creation framework, distinguishing tacit (experiential, context-embedded, difficult to articulate) from explicit (codified, transmissible, formally documentable) knowledge, provides the final theoretical pillar. The knowledge that maritime lecturer-brokers collect from industry contacts is predominantly tacit — insights about how freight-tech platforms actually function in practice, informal accounts of smart port implementation challenges, practitioner perspectives on digital business model viability in maritime logistics contexts — that must be converted into explicit instructional content for classroom deployment. This tacit-to-explicit knowledge translation is the core cognitive labor of knowledge brokering, and its quality depends on the broker's dual fluency: deep enough industry embeddedness to access and understand tacit practitioner knowledge, and sufficient pedagogical competency to translate that tacit knowledge into explicitly deployable instructional material.

2. Research Method

This study employed a qualitative design centered on semi-structured focus group discussions, conducted at STIP Jakarta from August 2025 to March 2026. Three separate FGD sessions were conducted, one per program group (PSM, DN, ENG), with 10 lecturers per session. This program-stratified FGD design was selected to enable natural within-community professional discourse about program-specific digital business knowledge brokering contexts, generating data whose between-program comparison reveals program-structural variation in knowledge brokering capacity and orientation not accessible through a pooled single-session FGD design [7].

The participant population comprised 30 active STIP Jakarta lecturers (10 per program) spanning the practitioner-academic spectrum: within each program group, participants included both former maritime practitioners who had transitioned to full-time academic roles and career academics without commercial maritime operational experience. This within-program diversity was deliberate, enabling the Differential Brokering Capacity comparison between former-practitioner and non-practitioner lecturers that the theoretical framework anticipates. All participants held active course delivery responsibilities in their respective programs.

The semi-structured FGD protocol addressed four domains organized around the knowledge brokering process: Knowledge Access (what informal industry connections participants maintain, how frequently they access industry knowledge through these connections, and what digital business knowledge categories they most recently accessed informally); Knowledge Translation (how participants convert informally accessed industry knowledge into classroom-deployable content, what translation challenges they encounter, and how they assess the pedagogical appropriateness of informally acquired content); Knowledge Transfer (how and how frequently informally acquired content reaches students through teaching delivery); and Structural Support and Barriers (what institutional mechanisms support or suppress their knowledge brokering function and what changes would most amplify it). Sessions were conducted in Bahasa Indonesia, audio-recorded with participant consent, and transcribed verbatim. Thematic analysis following Braun and Clarke's [8] six-phase procedure was applied to all three FGD transcripts, with cross-program comparison applied systematically after within-program coding. Member checking was conducted with three participants [9].

3. Results and Discussion

3.1 Thematic Overview

Table 1 presents the four thematic categories generated through systematic thematic analysis, alongside cross-program endorsement rates revealing both the universality of each theme across the three lecturer groups and the program-specific variations within each theme.

Table 1. Knowledge Brokering Themes: Cross-Program FGD Endorsement (n = 30)

Theme	PSM (n=10)	DN (n=10)	ENG (n=10)	Total
1. Informal Industrial Intelligence Networks	10/10	8/10	9/10	27/30
2. Tacit-to-Explicit Knowledge Translation	9/10	7/10	8/10	24/30
3. Structural Support Deficit	8/10	9/10	7/10	24/30
4. Differential Brokering Capacity	7/10	8/10	6/10	21/30

3.2 Theme 1: Informal Industrial Intelligence Networks

The Informal Industrial Intelligence Networks theme, endorsed by 27 of 30 participants across all three programs, documents the informal but extensive and actively maintained personal industry connections through which STIP Jakarta lecturers access current digital business knowledge in their respective maritime domains. The near-universal endorsement across programs establishes that informal industry intelligence maintenance is a normal, broadly practiced, but institutionally invisible professional behavior among maritime vocational lecturers rather than an exceptional practice of unusually industrious individuals.

Between-program analysis of the network character and digital business relevance of these informal connections reveals program-specific variation directly relevant to knowledge brokering capacity assessment. PSM lecturers described the richest and most digitally current informal networks, encompassing active communication with former colleagues now employed at logistics-technology companies, freight forwarding firms undergoing digital platform transitions, and port authority digitalization offices — networks that provide access to real-time digital business transformation knowledge directly relevant to PSM curriculum content. DN lecturers described moderately strong informal networks with former seafaring colleagues and shipping company shore personnel, but characterized these networks as oriented more toward navigation technology and vessel operational updates than digital business knowledge specifically — limiting but not eliminating the digital business brokering relevance of their informal networks. ENG lecturers described strong technical engineering knowledge networks, particularly in the alternative fuel and hybrid propulsion domains, but with comparatively less emphasis on digital business transformation per se, consistent with the Marine Engineering program's orientation toward technical operational competency rather than business process digitalization.

3.3 Theme 2: Tacit-to-Explicit Knowledge Translation

The Tacit-to-Explicit Knowledge Translation theme (24/30 endorsement) captures the central cognitive labor of knowledge brokering — the conversion of informally accessed practitioner knowledge into explicitly deployable classroom instructional content — and the specific challenges this translation process presents for STIP Jakarta lecturers whose professional identity and pedagogical preparation may not fully support it.

A consistently reported translation challenge across all three program groups was what participants described as the "legitimacy gap" in informal knowledge deployment: the difficulty of using industry-sourced knowledge in formal academic instructional contexts where institutional content standards, accreditation requirements, and assessment frameworks privilege formally documented, peer-reviewed, or ministry-approved knowledge sources over informally acquired practitioner insights. "I know from a conversation with [former colleague] last week that the new version of [logistics platform] has fundamentally changed how cargo documentation is processed. That knowledge is accurate, current, and highly relevant. But I can't put it in a slide deck as a curriculum content item because there's no textbook or official source I can cite for it. So it comes in as a verbal

aside, an anecdote, not as formal curriculum content." This legitimacy gap generates systematic under-deployment of informally acquired knowledge, constraining the brokering function to supplementary and informal channels rather than enabling it to shape formal curriculum content.

Former seafarer lecturers described substantially richer and more confident tacit knowledge translation processes than non-seafarer lecturers, consistent with Nonaka and Takeuchi's [6] framework: former practitioners possess the operational contextual fluency to understand the significance of practitioner-context information and translate its implications for professional competency development, while non-practitioner lecturers may access similar information but lack the experiential context to assess its operational significance or translate it accurately into professionally grounded instructional content.

3.4 Theme 3: Structural Support Deficit

The Structural Support Deficit theme (24/30 endorsement) captures lecturers' convergent assessment that STIP Jakarta's institutional structures neither recognize nor actively support the knowledge brokering function, leaving it entirely dependent on individual lecturer initiative, professional motivation, and informal network maintenance that the institution does not resource or reward.

Three specific structural deficit sub-themes emerged across the FGDs. The *Workload Displacement* sub-theme described lecturers' experience that the administrative demands of formal curriculum delivery, accreditation documentation, and assessment management left insufficient time for the informal industry engagement through which brokering network maintenance occurs — effectively crowding out knowledge brokering activity through workload competition without any institutional recognition that industry engagement time is a form of pedagogically productive professional investment. The *Recognition Absence* sub-theme captured the absence of any formal recognition or reward mechanism for knowledge brokering activity within STIP Jakarta's performance evaluation framework: industry engagement, informal knowledge transfer, and curriculum freshening through practitioner-network knowledge are not recognized in academic workload calculations, performance reviews, or career advancement criteria. The *Formal Channel Absence* sub-theme identified the absence of any institutional mechanism for capturing, curating, or systematically deploying the informal industry knowledge that individual lecturers access, meaning that valuable industry insights accessed by one lecturer remain entirely within that individual's informal teaching repertoire rather than becoming accessible to the broader curriculum community.

3.5 Theme 4: Differential Brokering Capacity

The Differential Brokering Capacity theme (21/30 endorsement) documents the within-program and cross-program variation in knowledge brokering effectiveness that the former-seafarer versus non-seafarer lecturer contrast generates, providing the most directly actionable finding for institutional human resource strategy.

Figure 1 presents the differential brokering capacity profile across program and lecturer background, derived from FGD discourse analysis.

Brokering Dimension	By Program			By Lecturer Background	
	PSM	DN	ENG	Former Seafarer	Non-Seafarer
 Network Size/Density	High	Mod	Mod-Hi	Higher (all pgms)	Lower (all pgms)
 Digital Business Currency	High	Low-Mod	Mod	Higher (all pgms)	Lower (all pgms)
 Translation Confidence	High	Mod	Mod	Higher (all pgms)	Lower (all pgms)
 Deployment Frequency	Mod-Hi	Mod	Mod	Higher (all pgms)	Lower (all pgms)

 ▶ Former seafarer lecturers demonstrate superior brokering capacity across all dimensions, all programs — largest between-background gap in **Digital Business Currency** and **Translation Confidence**.

 ▶ PSM shows **strongest program-level brokering** regardless of background, consistent with maritime logistics digitalization providing rich broker-relevant industry content.

Figure 1. Differential Knowledge Brokering Capacity by Program and Lecturer Background

3.6 Discussion

The study's convergent findings establish that STIP Jakarta's lecturer community is performing a genuinely valuable knowledge brokering function for maritime digital business curriculum agility, but doing so in institutionally invisible, individually dependent, and structurally unsupported conditions that systematically under-exploit the potential of the brokering resource the institution already possesses. Hargadon and Sutton's [1] foundational observation that effective knowledge brokering requires institutional design — deliberate structural support for boundary-spanning activity — rather than merely boundary-spanning individual talent is directly confirmed by the Structural Support Deficit theme: STIP Jakarta's lecturers are willing and often capable boundary-spanners whose brokering function is suppressed by institutional architecture that was designed for formal academic knowledge transfer rather than for the agile informal knowledge brokering that rapid digital transformation demands.

The tacit-to-explicit translation challenge documented in Theme 2, and particularly the legitimacy gap that prevents informally accessed practitioner knowledge from entering formal curriculum content, represents the most specifically addressable structural barrier identified in this study. Nonaka and Takeuchi's [6] knowledge creation framework suggests two institutional design responses that directly address this barrier: the creation of a structured "industry intelligence capture" mechanism — brief regular reporting of informally accessed industry knowledge to a curriculum committee — that legitimizes informally acquired knowledge as curriculum content input; and the development of practitioner case study co-creation processes that convert tacit practitioner insight into formally documented curricular cases that can be deployed with appropriate academic attribution. Both mechanisms would address the legitimacy gap without requiring fundamental institutional restructuring, operating within existing academic governance frameworks while creating formal channels for informal knowledge to enter the curriculum.

The Differential Brokering Capacity finding — former seafarer lecturers demonstrating stronger brokering capacity across all programs and dimensions — directly informs STIP Jakarta's faculty strategy through two

complementary implications: former seafarer lecturer retention and replacement policies should explicitly recognize knowledge brokering capacity as a selection criterion alongside academic qualifications; and professional development for non-seafarer lecturers should include structured industry engagement experiences — port visits, shipping company shadowing, digital logistics platform operator workshops — that build the tacit industry knowledge base whose absence limits their brokering effectiveness [4].

4. Conclusion

This study has documented that STIP Jakarta lecturers perform a knowledge brokering function in maritime digital business education that is valuable, broadly practiced, and institutionally unsupported, characterized by rich informal industrial intelligence networks (27/30), significant tacit-to-explicit translation activity (24/30), universal structural support deficit experience (24/30), and pronounced differential capacity between former-seafarer and non-seafarer lecturers (21/30). The legitimacy gap suppressing informal industry knowledge from formal curriculum channels, the workload displacement crowding out industry engagement time, and the recognition absence failing to incentivize brokering activity constitute the three most consequential and specifically addressable institutional barriers. These findings contribute the first knowledge-broker-framed analysis of maritime vocational lecturer roles and provide STIP Jakarta with specific institutional design recommendations for formalizing and amplifying a knowledge-brokering function whose informal operation already constitutes one of the institution's most valuable curriculum agility mechanisms.

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