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Capturing Knowledge on the Move: Learning from Gig Workers in Knowledge-Intensive Firms

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Abstract - As knowledge-intensive firms increasingly rely on external expertise through gig workers, a critical challenge emerges of internalize and retain the valuable knowledge contributed by temporary workers. Despite their potential as innovation driver, gig workers knowledge often overlooked due to fragmented involvement and a lack of structured learning processes. This conceptual paper proposes conceptual framework of knowledge internalization through recognition, assimilation and articulation, codification and retention, and transformation that integrates absorptive capacity and deliberate learning concept. By combining the dynamic perspective of external knowledge absorption with mechanisms for internal stabilization and routinization, the model illustrates how short-term, project-based knowledge can contribute into organizational capabilities. Drawing from the knowledge-based view of the firm, this paper advances theory on organizational learning from temporary contributors and provides a structured foundation for future empirical research. Practical implications are also discussed, including routines, tools, and leadership practices that enable organizations to learn from temporary workers.

Keywords - Knowledge internalization, Gig workers, Knowledge-intensive firms, Temporary Workers, Knowledge retention, Capability development

I. INTRODUCTION

In the digital economy, rapid technological change has made knowledge one of the most valuable strategic assets for organizations. In knowledge-intensive industries where intellectual capital and expert-based problem-solving are central to value creation, firms must continuously learn, adapt, and innovate to survive [1], [2], [3]. The growing complexity and pace of change in such environments demand that organizations develop dynamic capabilities, or the ability to sense changes in the environment, seize new opportunities, and transform their operations accordingly [3]. This requires not only leveraging internal resources but also integrating knowledge from external sources.

Concurrently, the gig economy enables organizations to engage high-skilled professionals such as freelancers, consultants, interim managers through project-based, flexible arrangements [4], [5]. Beyond filling labor gaps, these gig workers often contribute specialized, up-to-date knowledge gained from working across diverse contexts. Their broaden perspective allows them to challenge assumptions, transfer best practices, and introduce innovations that may not emerge from within [6], [7].

While gig work research often emphasizes precarity and autonomy [8], [9], emerging studies highlight gig workers' strategic value as knowledge contributors [6], [10]. However, little is known about how organizations can systematically absorb and embed this knowledge into organizations knowledge. Due to short-term engagements, ambiguous roles, and a lack of integration mechanisms, the knowledge they bring frequently remains fragmented and unabsorbed [11], [12].

To address this gap, this paper develops a conceptual framework that integrates two complementary theoretical perspectives: absorptive capacity and deliberate learning. Absorptive capacity [13], [14] explains how organizations acquire and assimilate external knowledge, while deliberate learning concept [15] provides a process view of how knowledge is articulated, codified, and embedded into organizational routines. This paper therefore proposes a four-stage as conceptual model of how knowledge from gig workers internalized in organization. The model consists of (1) recognition, (2) assimilation and articulation, (3) codification and retention, and (4) transformation. By repositioning gig workers as valuable sources of knowledge, rather than peripheral labor, this framework provides a structured basis for understanding how learning can occur in flexible, temporary and fluid work ecosystems.

II. LITERATURE REVIEW

This section outlines the theoretical foundations of the study, focusing on knowledge as a strategic asset, absorptive capacity, and deliberate learning. The perspectives that explain how gig-based knowledge can be integrated into organizational learning and capability development

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A. Knowledge as a Strategic Asset

In knowledge-intensive environments, a firm's ability to create, share, and apply knowledge is a critical source of sustained competitive advantage. The Knowledge-Based View of the Firm (KBV) positions organizations not merely as economic entities, but as social systems whose central productive function lies in the integration and application of knowledge [16]. Within this framework, knowledge is not just one resource among many, but it is the most strategically significant, particularly in dynamic and uncertain environments where routines, technologies, and products must continuously evolve to remain competitive [17].

A key implication of the KBV is that firms derive advantage not only from their internal knowledge repositories but also from their ability to manage knowledge flows within and across organizational boundaries. Internally, these flows are shaped by organizational routines, culture, and structure. Externally, they require the capacity to recognize, acquire, and integrate knowledge from a variety of sources, including customers, strategic partners, and increasingly, contingent workers. As gig workers become embedded in flexible talent ecosystems, understanding how their knowledge contributions are identified, processed, and retained emerges as a central concern for innovation and capability development.

B. Absorptive Capacity

The concept of absorptive capacity (ACAP), introduced in [13], offers a foundational perspective on how organizations identify, absorb, and utilize external knowledge. ACAP is defined as a firm's ability to recognize the value of external knowledge, assimilate it, and apply it toward commercial outcomes. Crucially, a firm's existing knowledge base shapes its ability to detect and make sense of new information. Building on this foundation, absorptive capacity as a dynamic capability composed of four interrelated processes: acquisition, assimilation, transformation, and exploitation [14].

Acquisition refers to the firm's ability to identify and obtain valuable external knowledge. Assimilation involves the organizational routines and processes that allow this knowledge to be analyzed, interpreted, and understood. Transformation is the capability to integrate new knowledge with existing internal knowledge, generating new insights. Finally, exploitation reflects the firm's ability to apply these insights in ways that improve operations, products, or services.

In the context of gig work, ACAP provides a powerful lens for examining how organizations can leverage knowledge that originates outside traditional employment structures. Acquisition and assimilation are particularly relevant to the early phases, where organizations must engage with often tacit, fragmented, and peripheral knowledge contributions from gig workers. These stages require cognitive readiness, boundary-spanning roles, and interpretive routines that help identify and decode externally sourced insights. Without strong acquisition and assimilation capabilities, gig worker contributions may go unnoticed or be misinterpreted, limiting their strategic value.

C. Deliberate Learning and Capability Evolution

While ACAP explains how external knowledge enters the organization, the concept of deliberate learning articulated in [15] addresses how that knowledge is stabilized, refined, and embedded into organizational routines over time. Deliberate learning is not merely an emergent by-product of experience; rather, it involves purposeful processes aimed at improving the effectiveness of organizational knowledge.

The three cumulative mechanisms underpinning deliberate learning [15]. First, knowledge accumulation occurs through repeated task execution and the experiential learning that follows. Second, knowledge articulation involves reflecting on experience and making tacit insights explicit through dialogue and interaction. Third, knowledge codification translates articulated knowledge into formalized structures such as manuals, templates, and procedures that preserve and transfer know-how across time and people.

These mechanisms are essential in transforming episodic, individual experiences like those from short-term gig engagements into durable organizational knowledge. When applied to the context of gig workers, deliberate learning underscores the importance of structured debriefings, reflection spaces, and codification practices. These processes ensure that the knowledge generated through temporary projects does not dissipate when workers leave. Instead, it becomes embedded in routines, accessible to others, and capable of enhancing the firm's adaptive capacity. When combined with absorptive capacity, deliberate learning provides a robust explanation of how external, short-term expertise can contribute to sustained organizational learning and capability evolution particularly in dynamic, distributed, and high-skill work environments.

III. METHODOLOGY

These conceptual papers contribute by clarifying constructs, synthesizing existing literature, and proposing new theoretical relationships. Following this approach, the paper integrates insights from the Knowledge-Based View, Absorptive Capacity, and Deliberate Learning to build a process-oriented framework that explains how organizations can internalize knowledge from gig workers. The model was developed through an iterative literature review process, identifying key mechanisms and bridging underexplored theoretical linkage. This method allows

for the generation of novel insights by reconfiguring established theories to address emerging organizational phenomena in the context of the gig economy.

IV. FINDINGS AND DISCUSSION

Building on the absorptive capacity framework and deliberate learning concept, this study proposes a four-stage model for internalizing knowledge from gig workers. Absorptive capacity outlines how organizations identify, assimilate, and apply external knowledge, while deliberate learning concept emphasizes how experience is transformed into routines through articulation and codification. Integrating these perspectives allows for a process-oriented framework that captures both the inflow of external knowledge and its internal conversion into organizational capability. The model unfolds through four interrelated stages. First, recognition that reflecting the acquisition component of absorptive capacity, this stage involves identifying valuable knowledge from gig workers. Second, assimilation and articulation meaning a combination of assimilation dimension of absorptive capacity and the articulation mechanism of deliberate learning, this stage focuses on making tacit knowledge understandable. Next, codification and Retention that anchored in the codification process of deliberate learning and the

otherwise remain peripheral. Recognition is heavily influenced by an organization's prior knowledge structures. Organizations are more likely to notice and value new input when it is conceptually close to what they already know [13]. Teams with cross-functional experience and a culture of openness are better equipped to make sense of unfamiliar contributions. Similarly, organizations that promote open innovation tend to be more receptive to contributions from external actors, including gig workers [18].

Beyond mental models, organizations also need structural enablers that support recognition. One such enabler is the presence of boundary-spanning roles as individuals or intermediaries who operate across organizational borders and are responsible for identifying and channeling relevant external knowledge [19]. In gig work contexts, these may include project coordinators, platform curators, or hybrid roles such as internal mentors assigned to temporary workers. These roles help build social bridges that make it easier for internal teams to recognize the potential of gig worker input.

Finally, technical and digital affordances also shape recognition. Digital platforms, such as knowledge-sharing tools, often contain built-in visibility mechanisms like portfolios, ratings, badges, or work histories. These signaling tools provide cues about the gig worker's expertise and performance track record, making it easier for managers or team
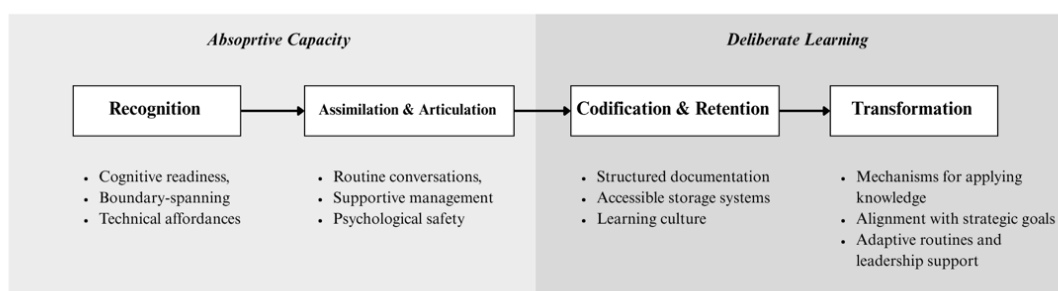

Fig. 1. A Four-Stage Framework for Internalizing Gig Workers' Knowledge in Organizations.

notion of organizational memory. Lastly, transformation explained as corresponding to the transformation and exploitation elements of absorptive capacity, this stage integrates knowledge into routines, strategies, or innovations.

The process through which organizations internalize knowledge from gig workers is illustrated in Fig. 1. which integrates key dimensions of absorptive capacity and deliberate learning concept. The figure provides a process-based view of how external, temporary knowledge becomes embedded in organizational routines and capabilities. Each stage of this framework is explained in detail below.

Stage 1: Recognition

The first step in internalizing knowledge from gig workers involves the organization's ability to recognize valuable external knowledge. Cognitive readiness, boundary-spanning roles, and digital visibility tools help surface knowledge that might

members to spot high-value contributors [20]. Internally, platforms for shared documents can also act as digital trace archives, revealing how and where gig workers are adding value. These systems serve as both communication infrastructure and evidence of contribution, enhancing the likelihood that knowledge will be recognized and retained [21].

Stage 2: Assimilation & Articulation

Once knowledge from gig workers is recognized, it must be assimilated and articulated, interpreted, contextualized, and translated into forms that the organization can share and retain. This aligns with the assimilation dimension of absorptive capacity [13] and the articulation mechanism of deliberate learning, in which structured reflection transforms individual insights into collective understanding [15].

The process begins with routine conversations that facilitate shared sensemaking. These include project debriefs, retrospectives, and informal knowledge-

sharing discussions rooms where tacit knowledge can be verbalized, questioned, and extended. This mirrors the externalization phase in the SECI model [22] where experiential insights are made explicit through storytelling, analogy, and critical dialogue. However, the temporary and peripheral status of gig workers can limit their participation in such conversations. To overcome this, organizations must create supportive management structures that help bridge divides in time, roles, and familiarity. These include role clarity, shared tools, and short-term coordination routines that ensure temporary contributors understand how to engage and where their input fits within broader workflows. Such scaffolding enables smoother integration of external knowledge into internal contexts [23], [24]. Finally, psychological safety is essential. When gig workers feel they can speak up without fear of being dismissed or misunderstood, they are more likely to share deeper insights, challenge existing practices, or offer alternative solutions. This is particularly important in hierarchical or high-stakes environments where external contributors may hesitate to critique internal routines or voice dissenting views. Psychological safety, defined as a shared belief that the team is safe for interpersonal risk-taking, has been shown to enhance voice behavior and team learning [25]. In short, successful assimilation and articulation depend on deliberate interaction, structural support, and an inclusive climate. These elements work together to transform gig workers' task-specific insights into shared organizational knowledge.

Stage 3: Codification & Retention
Following articulation, the next step in internalizing external knowledge is codification and retention the process by which articulated insights are stabilized, formalized, and stored for future reuse. In [15] identify codification as a critical mechanism for transforming individual or group-level learning into organizational routines. Codification serves not only to preserve knowledge but also to standardize and diffuse it across organizational units. This stage involves translating shared knowledge into formats that can be stored and retrieved. This requires documentation practices, storage systems, and a learning-oriented culture.

In the context of gig work, where knowledge contributions are often episodic and loosely coupled to internal structures, systematic codification becomes crucial to prevent knowledge loss at the end of each engagement. This involves capturing knowledge in the form of templates, checklists, best practices, or procedural guides, which can later be accessed by permanent employees or reused in future projects. Codification also links closely with the concept of organizational memory. Organizational memory resides in multiple repositories, including individuals, culture, routines, and information systems [26]. Moreover, the use of boundary objects, such as modular design tools or quality indicators, can help bridge diverse knowledge domains and ensure that stored knowledge is transferable across teams [27].

This codification process must be supported by systems that ensure knowledge is stored and accessible whether through IT systems, embedded in workflows, or distributed through routines. When the organizational culture supports documentation and learning, knowledge from gig workers is more likely to persist and remain actionable. Yet [12] cautions that even highly skilled temporary workers' contributions are often underutilized because client companies fail to integrate their outputs into formal knowledge systems or strategic planning. Ultimately, the codification and retention stage transform transient, individual knowledge into collective, accessible resources. It serves as the bridge between personal insight and organizational capability.

Stage 4: Transformation
The final stage in the internalization process involves transforming codified knowledge into action embedding it into organizational routines, strategic decision-making, or capability renewal. This aligns with the transformation and exploitation dimensions of absorptive capacity [14] and reflects the shift from knowledge possession to knowledge enactment, where insights actively shape how the organization operates. It involves mechanisms for applying knowledge, alignment with strategic goals, and adaptive routines that enable long-term capability development. Transformation begins with mechanisms for applying knowledge, such as pilot testing, process redesign, or iterative experimentation. These mechanisms help validate whether the codified knowledge is actionable in practice and reveal opportunities for refinement. For example, if a gig worker introduces a novel analytics method during a marketing project, its continued use may require customizing dashboards, training users, or updating reporting routines. Without deliberate application efforts, even well-documented knowledge can remain unused.

Another essential aspect is the alignment of knowledge with strategic goals. Knowledge becomes transformative only when it informs higher-order decision-making, not just operational adjustments. Organizations must establish feedback loops that connect what is learned in projects including from temporary contributors to broader innovation initiatives, strategic reviews, or capability assessments. Knowledge must be both accessible and perceived as relevant to ongoing organizational priorities to be integrated into learning loops [28].

Finally, transformation depends on the presence of adaptive routines and leadership support. Embedding new knowledge often requires adjusting existing practices or even replacing outdated assumptions. Leaders play a critical role in legitimizing the integration of gig workers insights, especially in organizations where external knowledge is traditionally undervalued. Supporting adaptive capacity involves creating room for experimentation, signaling openness to change, and protecting new routines from failure. Dynamic capabilities emerge through continuous recombination of internal and

external knowledge as ongoing, path-dependent process shaped by leadership behavior, organizational flexibility, and feedback mechanisms [29]. To sum up, transformation represents the moment where knowledge leaves the shelf and enters the system. Without structured application, strategic relevance, and adaptive pathways, even well-codified insights from gig workers may fail to produce lasting impact.

V. CONCLUSION

This paper addressed a critical gap in organizational learning and gig economy research by conceptualizing how knowledge from temporary, external contributors can be systematically internalized and transformed into long-term capabilities. By integrating the concept of absorptive capacity and deliberate learning, the proposed conceptual model of internalization knowledge in gig workers including recognition, assimilation and articulation, codification and retention, and transformation provides a structured pathway for translating short-term knowledge into enduring routines.

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