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VFC Competence Framework as a Human Resources Development Framework: A Qualitative Study of Competency-Based Teaching and Learning Theories

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Abstract

Understanding and nurturing the requisite competencies for success have emerged as essential due to rapidly changing professional landscapes. If the future of the workspace is to stay relevant, this research has developed a detailed Competency Framework to document such knowledge types. The framework is built on three such dimensions: Functional Expertise, which covers role and domain specific, digital and interdisciplinary competencies; Cognitive Psychology, embracing critical thinking and emotional resilience, as well as interpersonal effectiveness; and Visionary Management, focusing on leadership and management as well as strategic innovation. This is based on well-established theories, such as Kolb's Experiential Learning Theory, Bandura's Social Learning Theory, Seligman's PERMA Model etc.

This approach uniquely integrates systematic reviews, qualitative meta-analysis, and real-world observations to forge a framework that connects academic findings with industry realities. The study additionally has implications for future research including empirical verification and cultural adaptation of the framework. This framework includes characteristics for organizations and educators to develop resilient, emotionally intelligent, agile professionals who can excel in and with a wide range of environments.

Keywords: competency framework, functional expertise, cognitive psychology, visionary management, professional development

1. Introduction

In an age characterized as complex, novel, and high-velocity, people and organizations need flexibility, adaptability, and the ability to move knowledge around in new and useful ways. Traditional models of education and professional development have largely failed to do so, orienting heavily around cognitive mastery and neglecting the behavioral, emotional and strategic capabilities that are critical to surfacing in fast-evolving settings. Herzberg isn't the only one who has recently expressed a concern about the widening gap between academic education and workforce readiness — particularly as more contexts have made digitalization, cross-functional collaboration and systemic thinking as foundational rather than nice to have.

Competence-based education (CBE) is an effective solution to this challenge. CBE is not simply about delivering content; it is about mastery of knowledge, skills, attitudes and habits (KSAH) in context and with transfer between domains and roles. It moves from learning as a separate activity towards aligning it with performance and personal development, fostering at the same time autonomy and adaptability (Sanchez & Ruiz, 2008; OECD, 2005) Theoretical frameworks based on these principles crop up in organizational domains, and they may be instrumental in establishing competence models that not only enhance educative and recruitment processes, but can reshape entire HR systems around developmental goals and organizational alignment.

However, the current competence frameworks are often fragmented and siloed, each addressing technical, emotional, or leadership capacities separately. Indeed, many offer no developmental layering or behavior indicators, and few frameworks are built to cross educational and organizational ecosystems. In addition, a large number of the models

reflect Western-centric assumptions and are not easily transferable to a non-Western or culturally diverse context, a shortcoming that has been especially commented upon in high-context, hierarchical cultures such as the Arab world (McCrae, 2001; Afiouni, 2014).

To fill the void of previously mentioned gaps, this study is introducing the VFC Competence Framework which is an extensive, evidence-based architecture for a collective human functional expertise, cognitive psychology and visionary management. Based on established learning theories (Kolb, Bandura, Dweck, Seligman), iterative comparative sensemaking, and cross-disciplinary expert validation, the architecture of the framework consists of three dimensions and nine domains. Each domain is scaffolded using the KSAH model, enabling both depth and progression in how competence is developed and measured.

To make the framework relevant in practice, it was piloted and contextualized within the National Oil Corporation (NOC) of Libya. This case provided a window into how the VFC Framework could be applied, not just to shape training and leadership development, but also shape organizational restructuring, HR planning and strategic transformation within the post-conflict, resource-rich context. The empirical findings illustrate the framework's flexibility, cross-cultural applicability, and influence on workforce competence development.

Thus, the aim of this paper is twofold, the first presenting the theoretical formulation of the VFC Competence Framework, its structural logic; the second demonstrating how it may be practically applied, through the NOC case study, which is provided as an example of systemic, culturally conscious implementation. Connecting theory to practice and design with deployment, this study adds to growing calls for integrated, developmental and future-shaped competence models; models that will have impact only if they inform actionable means of developing to the standards they set.

2. Theoretical Background

2.1 Defining Competence and Competence-Based Learning

Competence is defined as “the ability to consistently apply a combination of knowledge, skills, attitudes, and habits to achieve effective performance across various roles, contexts, and over different times and places”. It is more than just learning isolated skills; it concerns building and transferring those skills through environments to get the desired results.

The OECD DeSeCo Framework (Rychen & Salganik, 2000) classifies major competencies into three major types: 1) using tools interactively, 2) acting autonomously, and 3) social competence in diverse groups and environments. This categorization legitimizes that competence is not just limited to the technical domain, but also involves ethical judgment, social awareness, and strategic decision-making. In line with this, the European Reference Framework on Key Competences for Lifelong Learning (EU Commission, 2019) essential competencies needed to attain personal fulfilment and employability in the 21st century, including digital literacy, culture awareness, and civic participation.

Competence-Based Learning (CBL) expands on that by transferring the focus from content delivery to learner-centered progression. Learners are evaluated on demonstrated mastery, not time in instruction. Concepts such as self-regulated learning, lifelong learning, and agency rooted in humanistic psychology and social learning theory (Bandura, 1986; Sanchez & Ruiz, 2008) are all complemented and supported through CBL.

Importantly, the KSAH model signals that not only knowledge or skill constitutes competence, but rather, observable action — consistent behavior — is critical. So if skills are your workout, and if habits are the internalization and automation of skills, they are also essential to performance in the complex or high-pressure environment.

This is building on both pedagogical and andragogical strands. Pedagogical approaches provide structured guidance and scaffolding for foundational learning while andragogical (i.e adult learning) focuses on autonomy, experiential learning, and real-world relevance (Knowles, 1980). Both are encompassed by the VFC Framework, which is certainly applicable to both an educational context and a professional context.

This model of competence is ever more relevant in recent organizations, especially in sectors undergoing digital transformation. Similar to the experience of the National Oil Corporation (NOC) of Libya, the KSAH-based model served as a strategic competency−based architecture to align talent development with organizational objectives. It informed capability gap identification, role expectation redefining and technology-enabled learning system integration.

2.2 Learning Theories Informing the Framework

VFC Competence Framework is being grounded on learning theories that the human development is a dynamic, adaptive process. Such theories undergird the psychology and pedagogy of how competencies are integrated and what is needed to develop the competencies, assess them, and keep them in their practical context. They provide a scaffold connecting foundational learning and professional practice.

Kolb's Experiential Learning Theory(1984) presents learning as an ever-revolving cycle of experience, reflection, conceptualization and experimentation. It is particularly relevant to the skills and habits layer of KSAH, with respect to how it supports iterative application to develop the KSAH framework. This point can be illustrated in the framework's role-specific and leadership domains, where practice and feedback are at the forefront of learning.

Bandura's Social Cognitive Theory (1986) states that personal, behavioral and environmental factors interact with each other. At the heart of this model is the notion of self-efficacy — the belief that you can impact outcomes. Informed by the psychological domain within the VFC framework, particularly related to aspects of motivation, resilience and a sense of agency—qualities essential to making adaptive and ethical decisions.

Carol Dweck's Growth Mindset Theory (2006) supports the belief that intelligence and ability can be built rather than they are fixed and that they can be made bigger through challenge, effort, and reflection. It emphasizes the framework's cognitive domain and highlights the importance of continuous learning and receptivity to criticism—particularly important in the face of the burgeoning digital contexts in which new skills and competencies must be learned in a hurry.

Seligman's PERMA Model of Well-being (2011) integrates an additional affective dimension into the development of competence. But, Positive Emotion, Engagement, Relationships, Meaning and Accomplishment is testament both to the form they assume in the social and psychological realms and to a more intricate understanding of development—one that connects doing and fulfillment, learning and well-being.

Simultaneously, theories of Emotional and Social Intelligence (Goleman, 1995; Bar-On, 2000) illustrate that competencies like empathy, control of emotions and interpersonal communication affect leadership and teamwork. These models help shape the interpersonal, leadership, and management areas in the VFC framework, especially in environments where cross-function and cross-culture collaboration is needed.

The framework is also underpinned by andragogy, or the science of adult learning (Knowles, 1980). Content needs to be relevant, self-directed, and tied to experience for adults to learn best. It is situated in the comprehension of principle, Interdisciplinary and Visionary domains need competence to be contextual and performance-driven. In contrast, the integration of pedagogical practices — highlighting directive teaching and guided sequencing, speak to the contextual flexibility of the framework relative to domains that are focused on youth and early career learning, particularly within foundational domains like cognitive and also digital agility.

Across the VFC overall framework, these combined perspectives not only create theoretical coherence across the layers of the framework but also developmental inclusion. The framework has been adapted for use in youth development programs, organizational settings, executive learning environments, and more. Its foundation in psychological and social theory consolidates competence as both an individual capacity and a relational practice—one that develops through learning and reflection, and context-appropriate enactment.

2.3 Toward a Multi-Dimensional Competence Structure

A multidisciplinary model of competence illustrated by a review of the learning theories and the global frameworks show the need. Most existing models break competence down into discrete categories—cognitive or technical, emotional or leadership—but few offer an integrated view that embraces the holistic development of personal, professional, and strategic domains.

Both the DeSeCo initiative led by the OECD and the EU's Key Competences for Lifelong Learning lay a foundation for the integration of technical, civic and digital skills. Theories of emotional intelligence (Goleman, 1995; Bar-On, 2000), growth mindset (Dweck, 2006) and experiential learning (Kolb, 1984) all imply that competence should be developmental, adaptable and relational.

Secondly, the constraints of the digital age stipulate attributes that are not merely functional or specialist, but trans-disciplinary, psychologically robust and strategically scalable. Hence competences frameworks need to respond to the new paradigms of lifelong learning, technological fluency and visionary leadership.

This theoretical synthesis underpins the configuration of the VFC Competence Framework (to be introduced in Section 5). Here we outline a framework to implement, in a developmentally ordered, empirical and strategic way, insights from the findings into a single system that aligns well with future organizational requirements.

2.4 Integrating Educational Research and Business Application in the Digital Era

The speed of digital transformation has changed the nature of education and work. Instead, competency is a dynamic capacity that must evolve hand-in-hand with technology change, market fluidity, and new modes of organizational collaboration.

In this context, melding educational research with business realization found new developmental form. Frameworks

that once sat on the shelves of educational institutions are now being tasked with things like talent pipelines, workforce re-skilling, and innovation strategies. As a result, contemporary competence models must not only be academically rigorous, but operationally relevant.

From a developmental, relationship-based perspective, this of course entails connecting the dots between theoretical models (e.g., experiential learning, growth mindset, emotional intelligence) and practical imperatives (e.g., strategy execution, performance systems, digital tools). This builds on research related to learning transfer and adaptive expertise noting that it is not just a matter of acquiring new skills, but that skills must also be deployed flexibly in changing environments (Hatano & Inagaki, 1986).

In addition, organizations will need to develop capabilities supporting transdisciplinary thinking, systems leadership and psychological preparedness for perpetual change. In the digital world, a position of strategic agility is not a niche capability: It is a fundamental survival skill. Business leaders now take for granted that employees will be able to operate in ambiguity, manage knowledge flow across platforms, and make reflective, ethical decisions under pressure.

The VFC Competence Framework addresses this paradigm by matching learning theory to business needs with specificity. It treats competence, not only as a matter of "knowing" and "doing," but as a process of becoming — of developing the psychological, functional and visionary capacity to survive and thrive in the unknown. More about this positioning will shine in the upcoming sections.

3. Previous Studies & Applications

3.1 Foundational Theories and Competency Models

Competence frameworks have been widely shaped by diverse theoretical underpinnings in aspects of developmental psychology, human development and organization studies. These theories frame our understanding of the processes by which individuals learn and develop knowledge, skills, attitudes, and habits (KSAH), and how this knowledge manifests itself in various learning contexts.

Learning Theory of Kolb, 1984: Kolb's Experiential Learning Theory:

Kolb's Experiential Learning Theory (ELT) describes learning as a circular process consisting of four stages; concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984; Kolb, Boyatzis, & Mainemelis, 2001). This model argues against learning as a precise intake of particles, whatever they may be, but as something that takes place when experiences get folded into the fabric of existing knowledge based on participation in the outside world — and not being particularly linear about it. In particular the rationale for experiential educational practices (apart from work-based learning and applied learning) and applied educational practices alongside reflective instructional pedagogies in competency-based education are provided by Experiential Learning Theory (ELT), especially in cases where group performance and/or skill transfer are emphasized in learning, as opposed to cognitive theory (Kolb& Kolb 2005).

Social Learning and Agency Theories (Bandura, 1977, 1986, 1997).

They hone in on how observational learning, modeling, and self-efficacy, are pertinent to behavioral development (Bandura, 1977, 1986, 1997), Bandura & Walters (1977) His theory of reciprocal determinism highlights the interplay between personal factors, behavior, and environment. Bandura's work supports the idea that people are active agents of their own learning, are able to self-regulate, and can react adaptively to feedback — a key element of the psychological and leadership categories of the VFC Framework within the context of competence development.

Growth Mindset Theory (2006) by Carol Dweck:

Carol Dweck's growth mindset theory holds that beliefs around the malleability of intelligence and ability greatly influence learning behaviour (Dweck, 2006). Students with a growth mindset are more likely to persist through challenges, learn from feedback and seek out the challenge. This is an encouragement for the development of metacognitive strategies and resilience, focused especially in the cognitive domain of the competence models.

Seligman's PERMA Model (2011):

Martin Seligman's PERMA model — Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment — comes from positive psychology and can connect well-being to sustainable performance (Seligman, 2011). His on-the-ground research highlights the role of psychological strengths, emotional awareness, and experiential engagement over abstract determination for personal and professional progress. These constructs influence how emotional and social competencies are developed and incorporated, more specifically in leadership and team behavior.

Gardner's Theory of Multiple Intelligences (1983, 1993):

From linguistic intelligence to spatial intelligence to musical intelligence to bodily-kinesthetic intelligence to

interpersonal intelligence to intrapersonal intelligence, Howard Gardner's Multiple Intelligences (MI) proposed that human intelligence was broken down into different modalities (Gardner, 1983, 1993). This challenge to traditional frameworks based on IQ has long emphasized diversity in cognitive strengths. MI theory was severely limited by a lack of empirical validation, the overlapping nature of proposed intelligences, and cultural prejudices about what qualities constituted "intelligence" (Visser, Ashton, & Vernon, 2006; McCrae, 2001). In any case, MI has added fuel to the fire for more broadly inclusive and personalized organization of learning that had been growing in many contexts, including instrumental in new interdisciplinary competency design.

Maslow's Hierarchy of Needs (1943, 1954, 1970)

Abraham Maslow's hierarchy of needs is a motivational model that structures human needs hierarchically—starting with physiological and safety needs, and moving towards self-actualization and self-transcendence (Maslow, 1943, 1954, 1970). Maslow's theory has been highly influential in educational and organizational psychology on how motivation and readiness to learn functions. Yet the model has been criticized for its weak empirical foundation, hierarchical structure, and limited universalism (Tay & Diener, 2011; McCrae, 2001). These restraints impede its potential to operate within a fluid or cross-cultural educational context, where greater variability and nuance exists.

3.2 Contemporary Studies on Competency Development

Contemporary studies, framed on key theories, have broadened the domain as well as the empirical basis of competency frameworks building upwards from education to: leadership, digitalisation, and sustainable development. Empirically, these studies validate KSAH (Knowledge, Skills, Attitudes, Habits) integration and existing frameworks that help education work toward a stand-alone industry, free from the inspiration of an industrial identity – one that has little regard or relevance for the needs of industry in a global, digital context.

Sanchez & Ruiz (2008): KSAH Integration for Holistic Development:

To advocate holistic human development, Sanchez and Ruiz proposed a learning model that incorporates KSAH. Through a qualitative synthesis of four educational frameworks, their study highlighted generic competencies—transferable skills across contexts—and advocated for curricula that address real-world challenges. It highlights prerequisite skills like emotional intelligence, critical thinking, and adaptability, and draws a line between competence and the ability to operate in a complex and ambiguous environment. This KSAH orientation is manifested in the structural design of the VFC Framework.

Alharbi (2022): Engineering Leadership and the Digital Era:

In a systematic literature review that oriented specifically to the context of sustainable smart manufacturing in engineering leadership, Alharbi identified the following competencies that are essential in the digital era:

- Digital agility
- Interdisciplinary collaboration
- Emotional resilience

These results clearly highlight the need to combine soft skills with digital competence and environmental consciousness. Alharbi's study supports the "interdisciplinary" and "digital agility" domains of the VFC Framework and confirms the importance of continuous learning in fast-evolving industries.

Koskela & Paloniemi (2022): Agency in Sustainability Transformations:

Exploring the role of agency in sustainability education, this study builds upon Bandura's theory to propose that learners must see themselves as capable actors in driving environmental and social change. Their meta-analysis concluded that fostering a sense of agency is critical for achieving sustainability competence. The psychological and social dimensions of the VFC Framework reflect this by embedding self-efficacy, ethical reasoning, and systems thinking.

Cedefop (2017): Learning Outcomes in Vocational Training:

A practical handbook was developed for the definition and use of learning outcomes in competence-based education by the European Centre for the Development of Vocational Training (Cedefop). Using case studies from across Europe, the report stresses that:

- Clear learning outcomes
- Assessment criteria that can be measured
- Transparency and comparability across qualifications

These lessons guided the VFC Framework's considerations regarding assessment indicators and cross-contextual

portability, especially within its role-specific and leadership domains.

Duhigg (2012): Habit Formation and Long-Term Competence:

As with Charles Duhigg's work, his emphasis on habit formation is a cornerstone to behavior change, enhancing your personal effectiveness, and building your skills to grow professionally. Although not a classical academic approach, the research synthesis of neuroscience, case studies and organizational behavior reinforces the notion of lasting competence being an expression of behavioral alignment. The KSAH model of VFC Framework uniquely incorporates habits, indicative of this focus on long-term behavior change.

Seligman (2011): PERMA and Emotional Well-Being:

Seligman's PERMA model—Positive Emotion, Engagement, Relationships, Meaning, and Accomplishment—is still an important contributor to performance psychology and well-being strategies. He teaches that to be emotionally resilient and purpose-driven is not only good for your own growth — it is what makes good leadership and great teams. PERMA is recognised in the psychological and Leadership domains (separately) of the VFC Framework as a standing influence; having a direct bearing on whether the internal capability to exercise sustainable competence is about to emerge, does emerge, or emerges but is to be disregarded for the sake of ego.

Kolb and Bandura Cultural Adaptation in Arab Work Setting:

Adhering Kolb's Experiential Learning Theory and Bandura's Social Learning Theory recently applied in Arabic organizational settings (UAE, Saudi, Egypt, Jordan) with the burden of cultural responsive training. These adaptations include:

- Experience with shadowing in oil & gas (mentorship-based experiential learning)
- Collective debriefing / group reflection (cognizant of collectivist values)
- The importance of ethical leadership through the use of role-modeling and story-telling
- Repetition and visible reinforcements in high-context cultures
- Islamic and Social Norms-based Recognition Systems

Such adaptations not only validate the significance of learning theories across the world, but also illustrate the need to localize them. The VFC Framework takes this a step further by providing cultural malleability while maintaining theoretical fidelity.

3.3 Cultural Adaptation in the Arab Context (See Table1)

The foundations of learning theories at the global level date back to 1984 through Kolb's Experiential Learning theory and 1977, 1986 Bandura's Social Learning Theory (1977, 1986), but their effectiveness in Arabic organizations needs to be culturally adapted. Individuals from collectivist societies define authority, feedback mechanisms, and pedagogical dynamics according to regional norms of high power distance and relational communication patterns (Hofstede, 2001; Al-Rasheed, 2010).

Application of Kolb's Experiential Learning in Arabic Organizations

While Kolb's four-stage cycle—concrete experience, reflective observation, abstract conceptualization, and active experimentation—has specific implications for Arab cultures, it must nonetheless be contextualized. Here are some practical adaptations:

- **On-the-job training and shadowing**, common in the UAE and Saudi Arabia's energy sectors, offer structured access to real-world tasks, aligning with the emphasis on direct mentorship and hierarchical instruction (Ali, 2009; Alharbi, 2022).
- **Group-based reflection** is more culturally congruent than individual journaling. In Egypt and Jordan, team debriefs and informal discussion circles provide opportunities for collaborative sense-making (Sullivan, 2020).
- **Case studies and seminars** tailored to regional industries (e.g., sustainability in Oman, innovation in Qatar) help bridge practical experience and theoretical frameworks (UNESCO, 2018).
- **Pilot projects and peer feedback mechanisms**, especially when endorsed by senior figures, enable active experimentation while preserving respect for hierarchy (Afiouni, 2014).

Bandura's Social Learning in Arab Organizational Cultures

The fact that Arab traditions of mentorship, storytelling, and community validation align perfectly with Bandura's make it even more suitable (Bandura, 1997; Elamin & Omair, 2010).

Particularly when senior leaders are considered as moral and technical exemplars, role models have a significant role in

organizational learning (Ali & Al-Kazemi, 2006).

Storytelling is prevalent throughout the entire region, a form of communication embedded deeply within the culture and an effective way to communicate values and to highlight narratives of success (Al-Mahrooqi & Denman, 2016).

Many chromological early education systems, especially Arabic ones, rely on rote memorization, oral learning, visual aids, repetition, and reinforcement as highlighted by two different studies (Alrabaa, 1985; Al-Mahdi, 2014).

In particular, mentorship programs (versus formal leadership development programs) connect with the cultural level of wasṭa (interpersonal influence) prevalent across the region, both structured and relational (Afiouni, 2014).

Religion, Ethics, and Motivation

Various Islamic values like amanah (trust), mas'ooliyah (responsibility) and khidma (community service) impact motivation as well as behavior at Arab workplaces (Beekun & Badawi, 2005). This perspective, about values-based learning frameworks, especially those about leadership and decision-making, encourages the best adoption, buy-in, and internalization of competencies.

The VFC Competence Framework responds to this by integrating moral reasoning, emotional regulation, and purpose-driven leadership into its domains while remaining open to culturally relevant interpretations.

Collectivism, Hierarchy, and Communication Patterns

Based on Hofstede's (2001) dimensions of culture, Arab workplaces show:

- **High collectivism:** Learning is more effective when team-based, with group validation.
- **High power distance:** Respect for authority necessitates top-down endorsement of learning initiatives.
- **High-context communication:** Informal spaces (e.g., coffee rooms, social gatherings) often serve as hidden arenas of peer learning (Al-Kandari & Gaither, 2011).

Such findings necessitate frameworks that respect hierarchical authority, facilitate relational learning, and can be delivered in culturally relevant formats. This reality was deliberately accounted for in the design of the VFC Framework as shown in the National Oil Corporation (NOC) case.

Table (1). Cultural Adaptations of the VFC Framework in Arab Contexts (Researcher)

Framework Domain	Cultural Adaptation	Example
Social Competence	Emphasis on group debriefs and collective reflection.	Team-based learning circles in Jordanian organizations.
Leadership Competence	Integration of Islamic values (e.g., amanah for trust). (Beekun & Badawi, 2005).	Leadership training incorporating mas'ooliyah.
Psychological Competence		Mentorship programs in UAE energy sectors.
Digital Agility	Role-modeling by senior figures to reinforce resilience.	Digital literacy workshops with peer mentors in Saudi Arabia.

3.4 Gaps Identified in Prior Frameworks

With many existing CMP-based approaches, theories and contemporary research have been critical in developing a body of competency based learning and development knowledge, however notable gaps remain in the existing frameworks. This represents a limitation of the model in developing a new paradigm towards analysing and understanding action in organisations and educational institutions and as such calls for a more integrative and scientifically and contextually grounded approach in response to today's complexities in schools and other organisations.

1. **Fragmentation Across Domains**

We argue that the most prominent such models tend to be one moded (cognitive (e.g., Kolb, 1984), emotional (e.g., Goleman, 1995), technical (e.g., Cedefop, 2017) and non-integrative across these dimensions. Consequently, only a handful of frameworks offer an integrative structure that captures the intersection between functional expertise and

psychological predisposition, emotional regulation, and strategic foresight. Whereas, for example, the European e-Competence Framework (CEN, 2014) has its primary focus on technical and digital competences but lacks with respect to social, emotional and ethical competences. Likewise, the CASEL framework (Collaborative for Academic, Social, and Emotional Learning, 2020) is well-acknowledged in promoting emotional intelligence, but its applications in strategy or professional development are seen to be miniscule.

2. **Underutilization of Habits in Long-Term Competence**

While some models include a reference to behavior change, the importance of habits as consistent, repetitive actions that contribute to sustained performance is still vastly under-explored. According to (Duhigg, 2012), habits are the first level of automation of behavior, that determines the long time applicability of competence. However, most frameworks stop at knowledge and skills, failing to consider required behaviours to achieve durability, consistency and automaticity of performance.

3. **Limited Attention to Strategic and Visionary Competencies**

In most cases competence frameworks fail to provide coverage of domains such as scaling a company, innovation management, and longer-term strategic planning. Although frameworks such as MITA (Middle East Information Technology Association) or e-CF offer a general ground in it, project management and project planning skills among others are mostly covered but The visionary mindset needed to lead organizations to transformational, disruptive, and systemic change is rarely accounted for. This gap is particularly pronounced in global industries experiencing digital disruption and organizational scaling.

4. **Inadequate Cultural and Contextual Adaptation**

Plenty of global models rely on individualist presuppositions, and have been poorly adjusted to collectivist, hierarchical, or religious contexts (McCrae, 2001; Afiouni, 2014), as illustrated in section 3.3. In fact, one commonly used model (Gardner's Multiple Intelligences from 1983) has been heavily critiqued as being uniquely Western in predicate to define intelligence and success based on those defined measures of success (Visser et al, 2006). In a similar way, Maslow's hierarchy of needs fails to encompass motivational dynamics in Islamic or collectivist societies in which the community and shared responsibility are central to personal identity and growth (Tay & Diener, 2011).

5. **Lack of Developmental Layering and Assessment Precision**

Although various frameworks outline competencies, few articulate a progression from novice to mastery or a multi-layered structure to guide development. For curriculum design, HR systems, and leadership development programs to effectively utilize competencies and assessment indicators, they must be designed to align with each other, which they currently do not. It is also worth mentioning that implementation and measurement in both educational and corporate settings continues to encounter interference from the gap between learning objectives and observable behaviors (Cedefop 2017; Sanchez & Ruiz 2008).

To cover these gaps, an integrated, versatile, and tiered developmental framework was proposed, consisting of cognitive, psychological, functional, and strategic levels and syntheses, the VFC Competence Framework. It embeds learning theory with applied outcomes, but enables cultural localization and behavioral validation. In the next sections, we describe the method and empirical application of this framework.

4. Methodology

Fusing conceptual synthesis, comparative analysis and empirical application, the creation process of the VFC Competence Framework followed a qualitative and iterative research design. This methodological approach was first employed to ensure the development of a competence framework that balances theoretical robustness and practical applicability, allowing its adoption in educational and organizational contexts, also while addressing demand from future labour markets.

It started with a systematic review of the interdisciplinary literature and models of global competence. Through an additional analysis of academic sources, policy reports, and industry frameworks in order to identify the corresponding trends, key constructs, and/or emerging needs of competences development. Sweeping references included the OECD's DeSeCo Framework, the European e-Competence Framework (e-CF), CASEL, and models grounded in emotional intelligence, social learning theory, and experiential education. These sources formed a general basis for the conception of the fundamental structure of VFC.

In addition to theoretical analysis, the research also involved a qualitative meta-analysis related to existing frameworks in use across professional sectors. Competencies are defined, assessed and integrated into daily working practices differently across each industry and so job descriptions, HR development plans and internal training systems were reviewed. The facet was crucial in connecting the ideas behind categories of analysis to measurable indicators of

performance. The research team achieved this by mapping similar competencies across multiple systems, creating clusters of relevant attributes, and rearranging them into nine domains, which are further grouped into three overarching domains — Functional Expertise, Cognitive Psychology, and Visionary Management.

One of the main structuring logic over the framework was the KSAH model: Knowledge, Skills, Attitudes and Habits. The organization of this model layers skills to focus on not just what folks know, or what they can do, but how they act over time, and with what adaptability. Habits, a factor not often highlighted in traditional models of learning, must be included to suggest that acting in the world in ways that reformulate by sharing external experience–internalization–repeating it–acting out–is what makes competence meaningful.

Since academic definitions can stall before they reach the workplace, a comparative analysis was implemented to ensure the framework's applicability. This framework analysis unveiled both overlaps as well as disconnections — showing for instance that although many of the frameworks addressed technical or emotional competencies, few interconnected cognitive, psychological and strategic dimensions into a cohesive system. The findings from this phase defined the structural coherence of the VFC Framework, and the need for a more holistic model.

The method also incorporated expert interviews and stakeholder verification. Education, human development and organizational psychology scholars were asked to review early drafts of the framework and HR professionals across sectors provided feedback on operational feasibility. These consultations provided feedback that was used to refine domain definitions, adjust behavioral indicators, and test the usability of the framework in learning and performance environments.

Lastly, the framework was empirically applied and validated through integration in the human resource transformation strategy of the National Oil Corporation (NOC) of Libya. The case study provided an opportunity for real-world testing where the framework could be localized, tailored, and evaluated using participatory design processes and structural integration into HR. Section 6 elaborates this empirical phase, where the framework informed workforce capability planning, training, assessment and leadership development in a complex public-sector institution.

This mixed qualitative approach that combined literature synthesis, meta-analysis, expert review, and organizational application gave rise to the VFC Competence Framework, a living, culturally contextualized, and developmentally oriented model. It helps to provide a cohesive, research-based infrastructure of human capacity that is going to help assist individual, institutional, and field-level development.

Figure 1. Methodology

5. Formulating the VFC Competence Framework (See Table2)

The VFC Competence Framework was intended to fill gaps found in other models, through a framework that is holistic, adaptable, layered, and developmental. The framework was developed through a comprehensive synthesis of theoretical literature, cross-cutting frameworks, and related industry innovations to create a flexible, and forward-looking model: The VFC Competence Framework Its second and prominent part is directed towards 'Solving Problems', it sheds light on integration into the traditional competence models which are based on functional expertise, cognitive and psychological development, mastery leading into development of the creative strategic leadership. The architecture of

the framework reflects these increasingly complex demands on people and organizations acting in fluid, digitalized and multicultural environments.

The framework consists three interdependent dimensions — Functional Expertise, Cognitive Psychology, and Visionary Management. These dimensions show a complex view of human capability, spanning technical capability, personal resilience and executive foresight.

Functional Expertise Dimension: competencies needed to deliver results at role-specific professional levels and adaptability. The framework is made up of Role-Specific Competence, which fosters mastery of technical, procedural and regulatory knowledge according to specific job categories; Digital Agility, which develops the ability to leverage digital tools, data environments and emerging technologies; and Interdisciplinary Competence, which integrates across fields for professionals to utilize various disciplines for problem-solving and innovation. This dimension drew on Kolb's (1984) experiential learning theory and was also consistent with frameworks such as the European e-Competence Framework (Cedefop, 2017), which promotes role-specific pathways of learning in the face of technological change.

The second dimension, Cognitive Psychology, focuses on the internal skills that allow people to think critically, self-regulate feelings, and relate well to others. It consists of three domains: Cognitive Competence, which comprises facets such as analytical thinking, problem-solving, and reflective judgment; Psychological Competence, which is drawn from Seligman's (2011) PERMA model to include emotional resilience, motivation, and self-efficacy; and Social Competence, which is based on Bandura's (1997) social learning theory to incorporate empathy, collaboration, and ethical interactions between individuals. They understand that competency is not just technical but involves the ability to self-regulate, adapt under pressure and flourish in complex social systems.

Visionary Management, the third dimension, brings in the capabilities necessary to guide organizations through growth, turbulence and transformation. The three domains are Leadership Competence, which reflects transformational leadership theory (Bass, 1985) and which emphasizes the ability to inspire, align, engage and influence others; Management Competence, which has its roots in operational planning, resource allocation, and execution, and which reflects personality traits (e.g., conscientiousness and emotional stability; McCrae & Costa, 1987); and Business Scaling and Development Competence, which focuses on innovation, sustainability, and strategic foresight. This area speaks to current organizational demands for leaders who can multiply impact, navigate complex ecosystems, and act from moral necessity.

The nine domains across the three dimensions are based on a layered developmental model known as KSAH: Knowledge, Skills, Attitudes, and Habits. Such a structure enables tracking of competencies not just from early awareness (knowledge) to applied practice (skills), but also through internal motivation (attitudes) and long-term behavioral consistency (habits). What sets the VFC Framework apart from traditional models is the inclusion of habits, recognizing that sustainable peak performance comes not just from learning but from habituation — incorporating competencies into the daily fabric of behavior and decision-making (Duhigg, 2012).

The VFC Framework equally focuses on flexibility and scalability. Its purpose is to be used across sectors — public, private and educational — and to be adapted to different cultural contexts. In collectivist cultures, you can emphasize social and ethical competencies through values and indicators that align such as amanah (trust), mas'ooliyah (responsibility), and khidma (community engagement) which make the model locally contextualized yet maintain a global relevance.

The VFC Competence Framework, with its structural coherence and developmental layering, serves as a roadmap for individual development, organizational learning, and national workforce planning. And it allows the training, assessment, and strategic planning to be aligned by connecting competency domains to observable behavior and performance. The VFC Framework thus emerges as a next generation model of integrating theory with action, and adaptability with rigor.

Not only does this formulation address voids in currently existing models, it also provided the operational underpinning for the implementation of a new HR and development system with the National Oil Corporation of Libya, which is described in the section that follows.

Table (2). Dimensions and Domains of the VFC Competence Framework (Researcher)

Dimension	Domains	Description	Theoretical Basis
Functional Expertise	Role-Specific Competence	Mastery of technical, procedural, and regulatory knowledge for specific roles.	Kolb's Experiential Learning Theory (Kolb's 1984).
	Digital Agility	Ability to leverage digital tools and emerging technologies.	European e-Competence Framework
	Interdisciplinary Competence	Integration of multiple disciplines for problem-solving and innovation.	Kolb's Experiential Learning Theory (Kolb's 1984)
Cognitive Psychology	Cognitive Competence	Analytical thinking, problem-solving, and reflective judgment.	Dweck's Growth Mindset Theory
	Psychological Competence	Emotional resilience, motivation, and self-efficacy.	Seligman's PERMA Model (Seligman's 2011).
	Social Competence	Empathy, collaboration, and ethical interactions.	Bandura's Social Learning Theory
Visionary Management	Leadership Competence	Inspiring, aligning, and influencing others ethically.	Transformational Leadership Theory (Bass) (Bass, 1985)
	Management Competence	Operational planning, resource allocation, and execution.	McCrae & Costa's Personality Traits
	Business Scaling and Development	Innovation, sustainability, and strategic foresight.	Industry-specific frameworks (e.g., MITA)

6. Empirical Validation: National Oil Corporation (NOC) – Libya Case Study

The application of the VFC Competence Framework at the National Oil Corporation (NOC) of Libya provided a unique opportunity for real-world validation of its relevance in a complex, high-stakes post-conflict setting. As Libya's largest public employer and a strategic asset to the national economy, NOC was pressured to liberalize its human resource systems and align workforce capabilities to both international standards and local realities.

There were challenges with NOC's HR structure from the very beginning. Its talent practices were fragmented, training not tied to on-the-job performance, promotion pathways based more on seniority than on demonstrated competence. Job descriptions were vague and no cohesive yardstick existed for judging behavioral, psychological, or leadership competency. This left the organization with little insight for planning for succession, identifying emerging leaders, or addressing skills gaps in a deliberate way.

To resolve these issues, the VFC Competence Framework was developed as a diagnostic and developmental instrument. Using a co-design approach with NOC's HR and executive teams, we localized the framework and embedded it into key organizational systems. The implementation was concentrated on the interlinkage of the 3 dimensions of the framework, that is, Functional Expertise, Cognitive Psychology, and Visionary Management, to the NOC's learning and development strategy, performance evaluation and HR architecture.

The first major impact item was in the Functional Expertise element. The NOC employed thousands of engineers, technicians, and other professionals at both the various field sites and a central headquarters. However, there was no standard structure that could define or measure role specific behaviours. The Role-Specific Domain in the framework allowed NOC to specify discrete technical standards, outline mapping of knowledge requirements and define levels of operational proficiency. The organization, based on Kolb's experiential learning model, reoriented its training strategy around practice-based assessments and on-the-job mentorship loops.

Digital Agility Domain filled an immediate competency gap. The rapid digitization of operational processes and systems, such as SCADA systems or data analytics, by NOC was not adequately balanced with staff digital literacy. It facilitated the establishment of baseline digital requirements, the introduction of new development tracks for cyber, remote operation and information management. Scaffolded through peer-supported learning models, these made digital competence a shared organizational goal, aligning it with sociocultural learning theory.

And it was the Interdisciplinary Domain that was created to encourage cross-functional thinking, an area that was traditionally a bit siloed in NOC. The framework promoted diversity in problem-solving by connecting engineering roles to environmental, legal, and financial perspectives. This was particularly relevant in upstream operations and project planning, where cross-department alignment is critical.

At the same time, the Cognitive Psychology dimension infused the HR system with a new set of behavioral insights. The Cognitive Domain built on NOC's training strategy by integrating critical thinking, decision-making under pressure, and analytical reasoning into mid-level development programs. Scenario-based training and reflective workshops become essential tools to train staff to operate sustainably within volatile, uncertain conditions.

Closely related to this was probably the most transformational change, the Introduction of the Psychological Domain. Emotional regulation, resilience and intrinsic motivation — once seen as "soft" attributes — were now argued as core competencies. In an environment of economic uncertainty and political volatility, this domain supported the capacity to develop the staff capability for well-being, focus, and perseverance, drawing on Seligman's PERMA model and Bandura's self-efficacy theory.

The Social Domain made a substantial contribution to managerial and team-based development. With such a culturally grounded focus on empathy, trust, and effective communication, this domain informed the design of mentorship programs, peer-learning networks, and enhanced cross-departmental collaboration. This was particularly important in a hierarchical context where influence depends on social networks and building relationships to get changes adopted.

The third dimension, Visionary Management filled a long standing vacuum in leadership development. In the Leadership Domain, the framework stressed ethical decision-making, strategic influence and vision-setting—lauded capabilities that had not previously been described in performance reviews or promotion criteria. Based on transformational leadership theory, these indicators were used to identify and develop high-potential staff.

The NOC was able to reshape competencies involving planning of resources, delegation of tasks, and coordination of systems around the Management Domain. All this was tied to performance management tools and coaching programs that strengthened accountability in management and aligned them with the department's goals.

NOC found its forward-looking agenda—focused on sustainable growth, innovation readiness, and organizational resilience—articulated through the Business Scaling and Development Domain. This domain underpinned the initiation of internal innovation challenges, succession planning programs, and entrepreneurial mindsets in units that were growing or diversifying.

Finally, and most importantly, the VFC Framework led to an entire redesign of NOC's HR architecture. They revamped job descriptions according to competency profiles. The KSAH model was recalibrated around recruitment and promotion systems. Performance reviews moved toward competencies — behavior and leadership indicators were part of performance KPIs in addition to technical ones. Learning and development plans were traceable against the three framework dimensions, allowing for measurable and strategic capacity building.

Table (3). KSAH Model Applied to Competence Development (Researcher)

Layer	Definition	Example for Leadership Competence
Knowledge	Understanding theories, concepts, and principles.	Knowing transformational leadership theories.
Skills	Ability to apply knowledge in practical contexts.	Demonstrating effective team alignment techniques.
Attitudes	Internal motivation and mindset toward the competence.	Valuing ethical decision-making and inclusivity.
Habits	Consistent, automated behaviors reflecting mastery.	Regularly soliciting feedback and mentoring team members.

As a result, HR at NOC evolved from being a transactional function to become a true partner at the business table, one that could help drive capability planning, workforce forecasting and culture transformation. With the VFC Framework taking root, the National Operational Capability (NOC) built its growth towards NCGs and aligned individual development with the organizational direction of growth, equipping them with replicable transformation framework for public-sector across region.

7. Conclusion

The aim of this study was to create a competence framework that was oriented towards the future and could overcome the gap between knowledge and action — between knowledge and performance, adaptability, as well as leadership. This structured, culturally adaptable framework is called the VFC Competence Framework and is based on already established learning theories and extensively validated empirically during implementations in the National Oil Corporation (NOC), Libya.

The framework convenes competencies across three interrelated dimensions (Functional Expertise, Cognitive Psychology, and Visionary Management), mapping each field as a layered structure within a continuous arc (KSAH), or Knowledge, Skills, Attitudes, Habit. It recognizes the reality that competence is not one skill or another but a process of becoming, a ceaseless interplay of learning, reflection, and performance that is not a stable trait but a dynamic quality.

As shown in its real-world case study implemented at NOC, it can radically transform organizational systems, rather than just individual learning. It backed up the redesign of NOC's HR architecture, so that these processes of training, assessment and promotion could be aligned with measurables competencies and developmental trajectories. More generally, it showed how a theoretically-informed model can be localized, operationalized, and embedded within workforce systems—catalyzing institutional learning and strategic renewal.

Such work is important far beyond one organization. Given the challenges of the digital world that cannot be anticipated, the VFC Competence Framework provides a scalable model which governments, educational systems and industries can use to ensure that human capital development is always aligned with unexpected challenges. It offers a language for integrating capability, culture and strategy.

Future research needs to build on the strong predictive validity of the scale produced here, and explore predicting performance through sector-specific adaptations, longitudinal studies of competence change and how competence changes both individuals and the institutions of which they are a part. Expansion around AI-based assessment, behavioral analytics, and cross-cultural localization would further improve the proposed framework and its reliability and validity.

Ultimately, this research is a reminder that competence isn't a fixed quality but a lifelong journey — one influenced by mindset, surroundings and intent. The VFC Framework offers not just a framework for evaluating that trajectory but a blueprint for giving people and organizations the tools they need to succeed within it.

Consistent with the developmental nature of this article, the authors are undergoing a three-part publication series, with each article aimed at an in depth examination of each of the dimensions of the VFC framework: Functional Expertise, Cognitive Psychology and Visionary Management. Moreover, upcoming studies will give further theoretical grounding, empirical indicators, and context-specific applications for each dimension. The aim is to develop frameworks, case applications, and evaluation methodologies, in content areas, to supplement the integrative basis described in this paper, for the enrichment of the educational/professional community.

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