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FROM THEORY TO DESIGN: SELF-DETERMINATION THEORY FRAMEWORK FOR PROTOTYPING A CAREER DEVELOPMENT APPLICATION

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Abstract: *This study proposes a systematic framework for translating Self-Determination Theory (SDT) principles into interface design guidelines for organizational career development applications. Addressing the gap between motivational theory and practical UX design, the research follows a four-phase methodology: theoretical integration, SDT-to-design mapping, interface specification, and expert validation. The framework is applied to produce mockups with concrete features supporting autonomy (e.g., user-driven customization), competence (e.g., progression systems), and relatedness (e.g., collaboration tools). Validation with three UX/HR specialists confirms the framework's theoretical coherence and design applicability. The study offers evidence-based guidance for UX designers and HR tech developers aiming to create intrinsically motivating interfaces that foster sustainable employee engagement.*

Keywords: *Self-Determination Theory, User Experience Design, Career Development, Human-Computer Interaction, Intrinsic Motivation, Employee Engagement, Interface Design, Hierarchical Organizations.*

1. INTRODUCTION

Contemporary organizational career development faces a persistent engagement crisis, with studies indicating that over 70% of employees report feeling disengaged from traditional career development platforms and HR technologies; employee engagement has reached a 10-year low, with significant declines in workplace connection and motivation [1] [2] [3]. Hierarchical organizations particularly struggle with this challenge, as conventional top-down career progression systems often undermine the psychological conditions necessary for intrinsic motivation and sustained professional growth.

Existing career development tools frequently rely on compliance-driven approaches that emphasize external rewards, mandatory training completion, and standardized progression paths. These designs inadvertently create environments where employees experience reduced autonomy, limited competence development opportunities, and minimal social connection to their growth journey [4]. The resulting disengagement manifests in low platform adoption rates,

superficial learning behaviours, and decreased organizational commitment to professional development initiatives [5].

The problem extends beyond individual user experience to organizational effectiveness. When career development technologies fail to motivate genuine engagement, organizations lose substantial investments in learning infrastructure while employees miss critical opportunities for skill advancement and career progression [6]. This disconnect becomes particularly pronounced in hierarchical structures where formal authority relationships can inhibit the sense of personal agency essential for meaningful professional development.

Current market solutions often address symptoms rather than underlying motivational foundations, implementing surface-level gamification elements or social features without systematic consideration of the psychological mechanisms that drive sustained engagement and intrinsic motivation in organizational contexts [7].

Despite extensive research in both organizational psychology and human-computer interaction, a significant methodological gap

persists between theoretical understanding of human motivation and practical application in organizational interface design [8]. Self-Determination Theory, one of the most empirically validated frameworks for understanding human motivation [9], has been successfully applied in educational [10] and healthcare technologies [11].

Existing research predominantly adopts post-hoc analytical approaches, examining motivation principles in already-deployed systems [12] rather than providing proactive design frameworks that embed psychological needs from initial development phases. This limits the potential for creating interfaces that systematically support intrinsic motivation, even if they accidentally achieve this through trial-and-error design iterations.

The HCI literature reveals numerous attempts to apply gamification and social features to organizational technologies, but these efforts typically lack theoretical grounding in established motivational frameworks [13]. While some studies have developed SDT-based design toolkits for specific domains like web conferencing [7], organizational psychology research provides robust theoretical foundations.

This gap creates a persistent challenge for UX practitioners and HR technology developers who lack systematic methodologies for creating intrinsically motivating career development interfaces. The absence of concrete design guidelines based on established motivational theory results in inconsistent implementation of motivation-supportive features and missed opportunities for leveraging psychological insights in organizational technology design.

This research addresses the theory-practice gap by developing the first systematic framework for translating Self-Determination Theory principles into actionable interface design guidelines specifically for organizational career development applications. While SDT has been successfully applied in educational and healthcare technologies, no prior work could be identified to establish a comprehensive SDT-to-UX translation methodology for workplace career development contexts. The primary objective of this work is to create a replicable methodology that bridges abstract motivational constructs with concrete UX design

specifications [14], enabling practitioners to embed intrinsic motivation support throughout the design process. We demonstrate the framework's applicability through CareerCraft, a prototype career development application designed for hierarchical organizations that implements all framework elements in a cohesive interface.

The study's methodological contribution lies in establishing explicit mappings between SDT's three core psychological needs - autonomy, competence, and relatedness - and specific interface design patterns, interaction mechanisms, and visual hierarchy principles for career development applications. The research further contributes a structured development methodology that addresses the unique challenges of hierarchical organizational contexts. The framework advances both theoretical understanding by demonstrating concrete operationalization of psychological needs in digital interfaces and practical application by offering evidence-based design patterns for career development platforms. Secondary contributions include demonstration of implementation feasibility through the CareerCraft prototype.

The framework's impact extends across multiple stakeholder levels. For practitioners, it provides evidence-based design patterns that move beyond trial-and-error approaches, reducing development costs and time-to-market for motivation-supportive interfaces. For organizations, systematic implementation of SDT principles can address the substantial financial losses from disengaged employees and underutilized learning infrastructure investments. For employees, interfaces designed using this framework.

The remainder of this work is structured as follows. Section 2 reviews related work on SDT in digital and organisational contexts. Section 3 outlines our four-phase methodology. Section 4 describes the framework development. Section 5 presents the CareerCraft prototype mockups. Section 6 discusses the expert evaluation. Section 7 summarizes the findings and implications. Section 8 presents the conclusions.

2. THEORETICAL BACKGROUND

2.1 Self-Determination Theory Foundations

The Self-Determination Theory (SDT) [15] provides a comprehensive framework for understanding human motivation and well-being across diverse contexts. SDT distinguishes between intrinsic and extrinsic motivation, proposing that sustainable engagement and optimal functioning emerge when three basic psychological needs are satisfied: autonomy, competence, and relatedness.

In organizational contexts, SDT has proven particularly valuable for understanding employee engagement, performance, and career development behaviours [16]. When workplace environments support these three basic needs, employees exhibit higher levels of intrinsic motivation, job satisfaction, and organizational commitment. Autonomy support in organizations involves providing employees with meaningful choices, encouraging initiative, and minimizing controlling supervision. Competence satisfaction occurs through optimal challenges, clear feedback, and opportunities for skill development. Relatedness fulfilment emerges from positive interpersonal relationships, collaborative work environments, and sense of organizational belonging [17].

The distinction between intrinsic and extrinsic motivation is crucial for organizational applications. While extrinsic motivators like rewards and recognition can provide short-term behavioural changes, intrinsic motivation - driven by inherent satisfaction and personal growth - leads to more sustainable engagement and performance outcomes [18]. This theoretical foundation suggests that effective organizational technologies should prioritize supporting intrinsic motivation through interface designs that enhance rather than undermine the three basic psychological needs [16].

2.2 SDT in Digital Interface Design

Recent research has increasingly explored SDT applications within human-computer interaction, particularly within educational technology and gamification domains, revealing both promising opportunities and implementation challenges. [19] pioneered SDT's application to digital games, demonstrating how game mechanics can either

support or undermine intrinsic motivation depending on their design implementation.

[12] demonstrated that interface design choices significantly impact perceived autonomy and competence, finding that chatbot interfaces actually reduced perceived autonomy compared to traditional menu-based systems, leading to lower user satisfaction despite their promise of more personalized interactions. This finding highlights the importance of careful design consideration rather than assuming that advanced technologies automatically enhance user motivation.

Educational technology research has shown more positive SDT applications. [10] successfully integrated gamification elements aligned with SDT principles into intelligent tutoring systems for physical education, demonstrating significant improvements in students' autonomy, competence, and relatedness satisfaction. Their approach included avatars, achievement systems, and social networking features that supported psychological needs while maintaining educational effectiveness. Similarly, [20] found that GenAI-assisted learning environments could enhance flow experience through autonomy and relatedness satisfaction, though competence effects varied.

Web conferencing research by [7] developed a comprehensive heuristic toolkit based on SDT principles, containing 15 design guidelines corresponding to the three basic needs. Their systematic approach to translating psychological theory into practical design heuristics provides a methodological precedent for theory-to-design frameworks.

Most SDT-informed design research focuses on educational or entertainment contexts, with limited exploration of professional development environments. Current organizational learning platforms often emphasize compliance and performance metrics rather than intrinsic motivation support, potentially creating engagement challenges and reducing long-term effectiveness.

Furthermore, existing approaches tend to apply SDT principles post-hoc to pre-designed interfaces rather than integrating psychological needs consideration from initial design phases.

This reactive approach limits the depth of SDT integration and may result in superficial feature additions rather than fundamental motivational architecture. The organizational context presents unique challenges, including hierarchical structures, mandatory training requirements, and performance evaluation pressures that may conflict with traditional SDT implementations developed for voluntary engagement contexts.

2.3 UX Design Principles for Motivation

Effective motivation-centred interface design requires careful integration of user experience principles with psychological theory. Autonomy support in digital interfaces manifests through user control mechanisms, customizable experiences, and transparent choice architecture that empowers users to direct their own interactions. Research in health technology adoption among older adults demonstrates that autonomy-supportive design features significantly influence technology acceptance and sustained use, while controlling interfaces create resistance and disengagement [11] [21].

Competence-fostering design elements centre on progressive disclosure, clear feedback systems, and scaffolded skill development pathways. [22] showed that AI-driven personalized feedback systems could effectively enhance students' academic self-efficacy and goal achievement by providing adaptive, competence-supporting interactions. Effective competence design requires balancing optimal challenge levels with achievable milestones, ensuring users experience mastery and growth rather than frustration or boredom.

Relatedness enhancement through interface design involves social connectivity features, collaborative tools, and community-building elements that foster interpersonal connections. However, organizational contexts present unique challenges for relatedness design, as hierarchical structures and professional boundaries may complicate social interaction patterns compared to educational or consumer applications.

The convergence of these UX principles with SDT theory suggests that successful motivation-centred interfaces require systematic integration rather than ad-hoc feature addition. Current literature seems to lack comprehensive

frameworks that guide this integration process specifically for organizational career development contexts, indicating the need for structured methodologies that bridge psychological theory with practical interface design requirements.

3. METHODOLOGY

3.1 Research Approach

Building on existing SDT-HCI research that demonstrates both successful applications ([10]; [7]) and design challenges ([12]), this study adopts a systematic theory-to-design methodology to address the identified gap in organizational career development contexts. The methodology draws inspiration from Wu et al.'s heuristic toolkit development approach while extending beyond their web conferencing domain to address the unique motivational challenges of career development systems. The research follows a qualitative framework development approach, prioritizing theoretical rigour and practical applicability over quantitative validation at this foundational stage.

The methodology is structured as a four-phase systematic process: theoretical integration, design translation, interface specification, and expert validation. This ensures that each phase builds upon previous findings while maintaining traceability from theoretical foundations to final design implementations. Thus, we provide a replicable process for similar interdisciplinary translation challenges.

Expert validation through structured interviews was chosen as a validation method due to the framework's foundational nature and the need for combined expertise in both UX design and organizational psychology.

3.2 Phase 1: Theoretical Integration

Phase 1 established the theoretical foundation by synthesizing insights from organizational psychology, SDT research, and HCI literature identified in Section 2. We then addressed the unique challenges of hierarchical structures, professional development requirements, and workplace social dynamics that differentiate organizational contexts from educational or consumer applications explored in previous

research. This addresses the gap identified by [11] regarding context-specific design considerations.

The SDT needs mapping process systematically connected each of the three fundamental psychological needs (autonomy, competence, relatedness) to corresponding UX design principles. The theoretical framework consolidation synthesizes these connections into a coherent foundation for subsequent design translation phases.

3.3 Phase 2: Design Translation

Phase 2 operationalized the theoretical integration through translating the abstract SDT constructs into concrete interface design specifications. This phase addressed the core challenge identified in existing literature: moving beyond general motivational principles to actionable design guidance. Each SDT need received detailed analysis of how it manifests in organizational career development scenarios, informed by positive examples from educational research [10] and cautionary findings about autonomy-undermining designs [12].

Autonomy translation focuses on user control mechanisms and customizable pathways that support self-directed professional growth while respecting organizational structures. Competence translation emphasizes progressive skill visualization and feedback systems. Relatedness translation addresses collaborative features and mentorship integration, recognizing the organizational context constraints identified in health technology adoption studies.

Feature identification and categorization processes ensure systematic coverage of all three SDT needs while maintaining practical implementation feasibility.

3.4 Phase 3: Interface Specification

The interface specification phase integrated user-centred design principles with the SDT-informed framework to create concrete design specifications for a career development application. This phase applied established UX methodologies while maintaining focus on psychological need support throughout the design process.

The information architecture prioritized user autonomy through flexible navigation structures, competence support through clear skill progression pathways, and relatedness enhancement through integrated social and collaborative features. It thus balances individual agency with organizational structure requirements.

Interaction pattern establishment involved designing specific user interface behaviours that consistently reinforce psychological need satisfaction. These patterns include voluntary engagement mechanisms (autonomy), progressive disclosure systems (competence), and social interaction facilitators (relatedness).

Visual hierarchy development prioritized competence building through clear progress indicators, achievement visualization, and skill development feedback systems. Navigation system design enhanced autonomy perception by providing multiple pathways to accomplish goals, customizable interface elements, and user-controlled pacing mechanisms.

Detailed mockups were then created for the CareerCraft prototype, implementing all framework elements in a cohesive organizational career development application.

3.5 Phase 4: Expert Validation

Expert validation employed structured interviews with three professionals combining expertise in UX design and organizational psychology. Selection criteria required academic or extensive professional experience in both domains, ensuring evaluators could assess both theoretical coherence and practical implementation feasibility.

The structured interview protocol included framework overview presentation, detailed SDT-to-design mapping review, and prototype demonstration. The protocol evaluated theoretical accuracy, practical applicability, implementation feasibility, and potential organizational impact. The expert feedback informed framework and application mockups refinements.

4. FRAMEWORK DEVELOPMENT

4.1 SDT-to-Design Mapping Framework

The core contribution of this research lies in establishing correspondences between SDT's psychological needs and concrete user interface design elements. Our mapping framework transforms abstract motivational constructs into actionable design specifications through three primary translation pathways.

The autonomy need, defined as the experience of volition and self-direction in one's actions, maps directly to user control mechanisms in interface design. This translation manifests through customizable pathways that allow users to choose their learning sequence, voluntary engagement features that avoid mandatory participation, and flexible pacing controls that respect individual preferences. The framework emphasizes choice architecture - structuring options to preserve user agency while guiding toward beneficial outcomes. Interface elements supporting autonomy include opt-in rather than default participation in collaborative activities.

The competence need, representing the desire to feel effective and capable of achieving desired outcomes, translates into progressive disclosure systems and mastery-oriented feedback mechanisms. This pathway focuses on skill visualization that makes abstract competencies tangible through clear progression indicators, and on achievement scaffolding that breaks complex skills into manageable components. The framework emphasizes growth-oriented messaging that frames challenges as development opportunities rather than performance evaluations.

The relatedness need, to feel connected and experience a sense of belonging, maps to social and collaborative interface features that facilitate meaningful professional relationships. This translation encompasses peer collaboration tools that enable knowledge sharing, mentorship matching systems that connect individuals across organizational levels, and community building elements that strengthen organizational identity. The framework distinguishes between authentic social features that support genuine professional relationships and superficial social elements that may create performance pressure.

Rather than treating the needs as independent, the framework recognizes their interconnected nature - for instance, collaborative learning

features can simultaneously support relatedness (through peer connection) and competence (through knowledge exchange) while maintaining autonomy (through voluntary participation). This integrated approach prevents common design pitfalls such as overemphasising external rewards, or social features creating competitive pressure rather than supportive relationships.

4.2 Autonomy-Supportive Design Elements

The framework translates SDT's autonomy need into features that empower user self-direction while maintaining organizational alignment. Personalized career "quests" serve as the foundational autonomy mechanism, allowing employees to pursue development paths that align individual interests with organizational needs.

Customizable career development paths enable employees to construct unique professional trajectories based on personal strengths and interests, moving beyond rigid organizational hierarchies to support individual agency.

Strategic component placement allows employees to create synergies between different career elements (skills, relationships, experiences), providing meaningful choices about professional development combinations. The career component building feature transforms passive consumption into active construction, enabling employees to assemble personalized development experiences.

Spontaneous learning opportunities leverage detected interests to surface relevant development options without overwhelming directive guidance, maintaining user agency. Similarly, discovery moments create unexpected career opportunity reveals that feel earned rather than imposed, supporting intrinsic curiosity and exploration.

These features collectively address the autonomy challenges observed in previous interface research where controlling designs reduced user satisfaction. By providing multiple layers of choice—from quest selection to component assembly to discovery timing—the framework ensures that employees maintain genuine agency over their professional development while benefiting from

organizational support and intelligent guidance systems.

4.3 Competence-Fostering Interface Features

The competence dimension manifests through features designed to support mastery, progress visualization, and skill development satisfaction.

Experience point systems reward diverse professional activities - learning, projects, and skill development - creating comprehensive competence feedback that extends beyond traditional performance metrics. This approach addresses the competence-supporting feedback mechanisms identified as crucial for sustained motivation (Xu et al., 2025).

A city map -like career visualization transforms abstract professional growth into visual representations that make progress tangible and meaningful. The skill economy implementation creates interconnected professional resource systems where different capabilities have distinct values and applications, fostering competence diversity rather than narrow specialization.

Temporal competence design through varied development time horizons acknowledges that meaningful skill building requires different time investments, supporting both immediate achievements and long-term mastery goals. The framework rewards consistency and planning over quick wins, promoting sustainable competence development aligned with intrinsic motivation principles.

Progress visualization provides clear competence evidence, while transforming career landscapes create dynamic representations that evolve as skills are acquired, maintaining engagement through visual novelty and growth representation.

These competence features address the challenge of making professional development progress visible and meaningful. Unlike traditional performance dashboards that focus on external metrics, these elements support internal competence satisfaction by making skill growth concrete, progressive, and personally significant while maintaining professional relevance.

4.4 Relatedness-Enhancing Components

The relatedness dimension addresses organizational connection through collaborative features that foster professional community while respecting hierarchical structures. Teams enable employees with complementary development goals to collaborate, creating mutual support systems that extend beyond traditional team boundaries while serving both individual and organizational objectives.

Mentorship mechanics transform traditional guidance relationships into structured support systems where experienced employees share their expertise, creating mutual value while strengthening organizational knowledge networks. This approach addresses the relatedness-competence intersection identified in educational research (Wu & Wang, 2025).

Organization-wide learning events tied to strategic priorities align individual development with collective organizational goals, addressing the challenge of maintaining relatedness in large hierarchical structures. Limited-time skill challenges with special recognition create focused community experiences that generate shared achievement and recognition opportunities.

These relatedness features address the challenge of fostering connection within professional hierarchies where traditional social networking approaches may be inappropriate. By focusing on professional development as the connecting foundation, the features create legitimate collaboration opportunities that serve both individual growth and organizational objectives. The emphasis on mutual benefit - through teams, mentorship, and collaborative challenges - ensures that relatedness enhancement supports rather than conflicts with professional advancement goals.

5. PROTOTYPE MOCKUPS

5.1 Application Scenario

The CareerCraft application addresses career development challenges within hierarchical law enforcement organizations, specifically targeting police inspectorates where traditional training approaches often rely on mandatory assignments and external motivation systems.

The primary user persona represents entry- to mid-level investigators and specialized officers who seek professional growth while maintaining operational effectiveness.

CareerCraft's framework implementation addresses three critical organizational needs: supporting officer autonomy through personalized learning paths and voluntary challenge acceptance, fostering competence through progressive skill visualization and peer mentoring opportunities, and enhancing relatedness via team-based innovation projects and cross-departmental collaboration. The application aims to transform traditional top-down career development into an intrinsically motivated, user-driven experience that aligns individual professional aspirations with organizational operational excellence and innovation requirements.

5.2 Key Interface Mockups

The navigation mechanism employs a bottom-placed tab bar with 5 buttons corresponding to essential screens: dashboard, missions, teams, events, and badges.

The dashboard (see Fig. 1 a) is built around the professional career representation, as a city map, with buildings that represent different skill

areas that users can "build up". The four resource types: Knowledge, Social, Strategic, and Physical, each representing experience points (XPs), are displayed and colour-coded in the dashboard, along with the current total XP and progress to next level.

The skills required to progress to the next career level can be obtained by enrolling in specific missions (see Fig.1 b). These are displayed as (algorithm-suggested) learning opportunities based on user profile, encouraging a balanced development through resource allocation. The user can freely enrol in any available mission(s). The active missions are displayed in the first part of the page, followed by recommended missions, alongside their descriptions where users can also view XP and potential badges that can be "earned".

Missions will be recommended by the organization through the HR development platform for CareerCraft that we will design subsequently, to guide users toward balanced career development across all four dimensions: Knowledge, Social, Strategic, and Physical.

Each initiated quest (see Fig. 2 a, b) contains several milestones that, once achieved, award the user XP of a specific type.

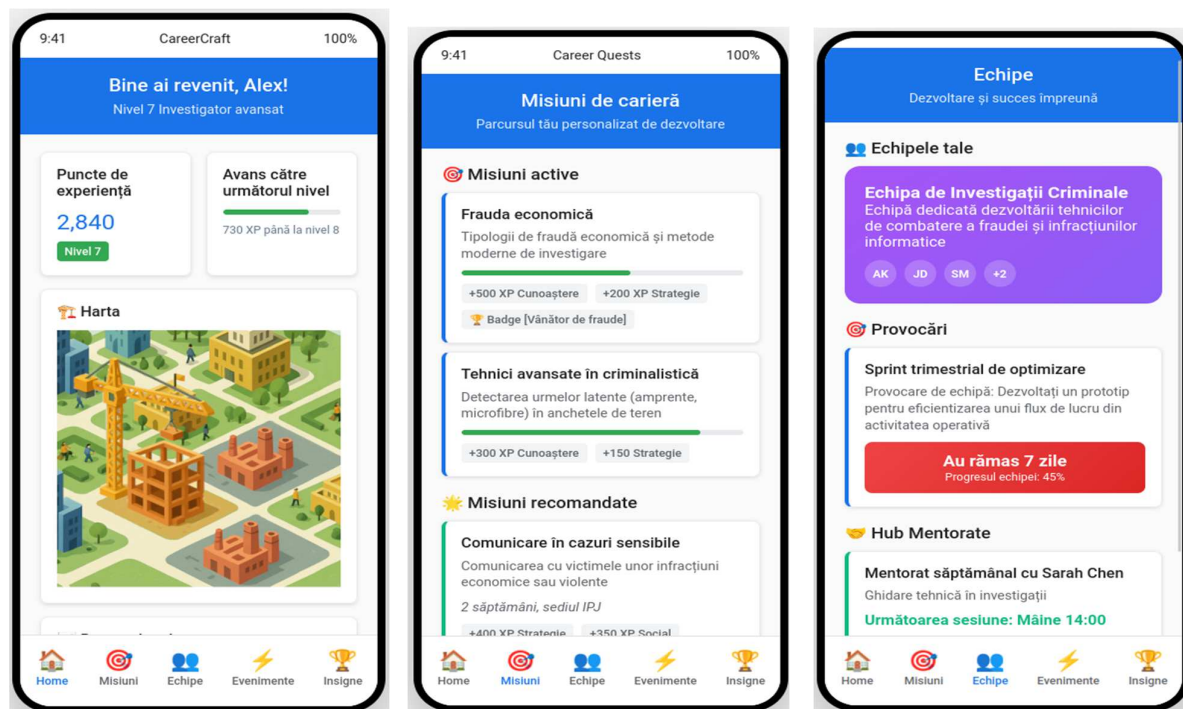


Fig. 1. (a) The Dashboard, (b) Career Missions, (c) Teams and Mentorship

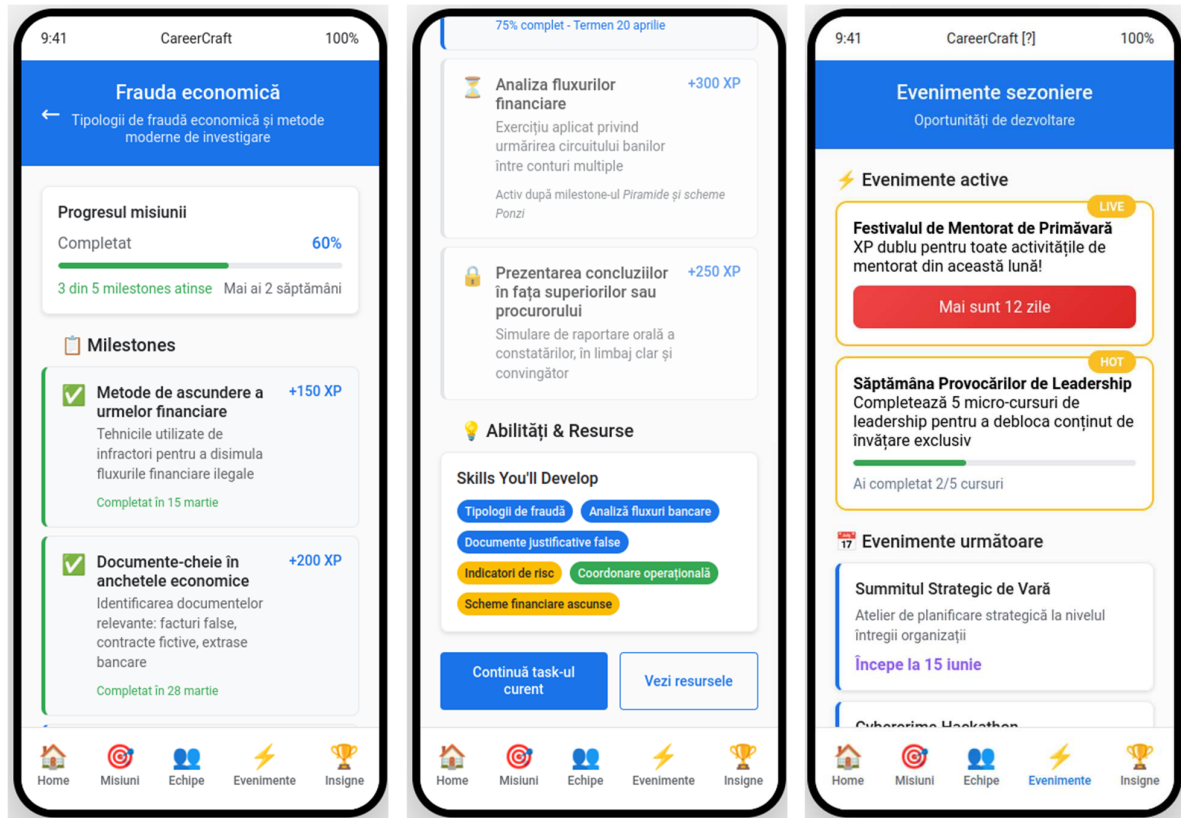


Fig. 2. (a) and (b) Quest details, (c) Events.

Mission progress is displayed alongside the skills that the user develops throughout the mission, which will be reflected on the career map as buildings. In the intended operational mode of the application, milestone achievement would be certified by another user with the role of 'mission supervisor' (for brevity, the current research focuses only on the 'employee' user role).

Users can also enrol in teams and subsequently in cross-department team challenges (Collaborative Quests) to foster team work (see Fig. 1 c). The "Teams" tab manages the users' teams and the collaborative challenges he opted for, along with a Mentorship Hub, for both receiving and giving mentorship opportunities. Users can also join teams to participate in collaborative missions, which are conceptually similar to the missions in the "Missions" tab but can only be undertaken by a team. The "Teams" tab manages the teams that the user belongs to and the collaborative challenges they have chosen to participate in, alongside a Mentorship Hub dedicated to both receiving and offering mentorship opportunities. The "Events" tab (Fig. 2 c) manages the learning

events and seasonal themes the user participates in, alongside an Event Calendar for discovering and tracking upcoming organizational development opportunities.

6. VALIDATION

Three experts were selected based on dual expertise criteria combining UX design practice with organizational psychology knowledge. Expert A (15 years org. development, PhD Organizational Learning, MBA) specializes in workplace learning, leadership development, and career tech adoption in large organizations. Expert B (PhD Engineering Management, Lecturer) specializes in innovation, organizational change, and cross-cultural management in business contexts. Expert C (20+ years ergonomics & HR, PhD Engineering) specializes in knowledge management and human factors in industry and education.

Structured interviews followed a standardized protocol evaluating three dimensions: theoretical coherence (alignment between SDT principles and proposed design elements), applicability (implementation

feasibility in organizational contexts), and scalability potential (adaptability to different organizational types and career development scenarios). Each dimension was assessed using structured questions with supporting rationale requirements.

All three experts confirmed strong theoretical coherence, rating the SDT-to-design mappings as “methodologically sound and well-grounded in established theory”. Expert A emphasized that the framework successfully addresses the autonomy challenges, noting that “customizable pathways prevent the controlling interface problems that undermine user independence”.

Applicability received consistently positive assessment, with Expert B highlighting the framework's sensitivity to organizational hierarchies, noting that the framework “recognizes professional context constraints while maintaining motivational integrity”.

Minor refinements emerged from expert feedback. Experts A and B recommended additional consideration of cross-cultural organizational differences, and expert C proposed expanding the relatedness components to address potential remote work scenarios. The experts agreed that the methodology provides “a replicable, theoretically grounded approach that advances SDT applications in organizational HCI” and recommended proceeding to user-based validation studies with organizational employees.

7. DISCUSSION

7.1 Contribution

This research introduces a systematic methodology for translating Self-Determination Theory principles into actionable interface design specifications for organizational career development applications. Our framework provides a proactive design methodology that embeds psychological needs consideration from the conceptual phase through prototype development.

The framework's novel contribution lies in its systematic mapping approach that bridges abstract motivational constructs with concrete UX design elements. By establishing explicit connections between SDT's autonomy, competence, and relatedness needs and specific

interface patterns- such as customizable pathways, XP-based progression systems, and collaborative features - the framework transforms theoretical knowledge into practical design guidance. This addresses a critical gap in the HCI literature where motivational theory often remains disconnected from implementation realities.

Furthermore, the four-phase methodology (theoretical integration, design translation, interface specification, and expert validation) provides a replicable process that other researchers and practitioners can adapt for similar theory-to-design challenges.

7.2 Practical Implications

The framework offers practical value for stakeholders within organizational technology development. UX designers may benefit from evidence-based design patterns that systematically support user motivation rather than relying on intuition or generic engagement tactics. The explicit mapping between SDT needs and interface elements provides clear design criteria that can inform feature prioritization, and interaction design decisions.

HR technology developers can leverage the framework to differentiate their products by embedding scientifically-grounded motivation principles that address persistent engagement challenges in organizational learning platforms. The framework's focus on intrinsic motivation offers a sustainable alternative to gamification approaches that may create external reward dependency and reduce long-term engagement.

For organizational leaders considering technology investments, the framework provides evaluation criteria for assessing whether career development platforms align with psychological principles that support sustainable employee motivation and growth. Organizations can adopt the framework incrementally, implementing specific SDT-aligned features within existing systems or using it as a foundation for comprehensive platform redesigns.

7.3 Limitations & Future Work

The study's primary limitation stems from its expert validation approach, which, while providing valuable theoretical coherence

assessment, cannot substitute for empirical user testing with actual organizational employees. The three-expert sample, though carefully selected for combined UX and organizational psychology expertise, represents a limited validation scope that requires expansion through a larger-scale evaluation study.

Generalizability limitations emerge from the framework's development focus on hierarchical organizations and career development contexts. While the underlying SDT principles apply broadly, specific design implementations may require adaptation for different organizational structures, cultural contexts, or application domains beyond career development.

Future research will prioritize empirical validation through controlled user studies measuring actual motivation outcomes, engagement levels, and career development behaviours in real organizational settings. Methodological extensions will explore hybrid approaches combining the current theory-to-design methodology with participatory design methods, incorporating end-user perspectives throughout framework development rather than only during validation phases. Integration with emerging technologies like AI-powered personalization and adaptive interfaces represents another promising direction for framework evolution.

8. CONCLUSIONS

This research introduces a systematic framework for translating Self-Determination Theory principles into actionable interface design guidelines for organizational career development applications. Through a rigorous four-phase methodology, we bridge the persistent gap between motivational theory and practical UX implementation, moving beyond post-hoc analysis to proactive design guidance.

The framework's features, spanning autonomy-supportive customization, competence-fostering progression systems, and relatedness-enhancing collaboration tools, demonstrate that psychological needs can be systematically embedded in professional development interfaces. Expert validation confirms the framework's practical applicability

for hierarchical organisations. Future empirical validation is still needed, to establish effectiveness in real workplace settings.

This research aims to offer value for UX practitioners and HR technology developers seeking evidence-based alternatives to superficial gamification approaches. By providing a replicable methodology and concrete design specifications, the framework aims to support a broader adoption of intrinsically motivating organisational technologies.

9. ACKNOWLEDG

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De la teorie la design: Cadru bazat pe Teoria Autodeterminării pentru prototiparea unei aplicații de dezvoltare a carierei

Această lucrare propune un cadru sistematic pentru transpunerea principiilor Teoriei Autodeterminării (SDT) în ghiduri de design de interfață destinate aplicațiilor organizaționale pentru dezvoltarea carierei. Abordând decalajul dintre teoria motivațională și designul UX aplicat, cercetarea urmează o metodologie în patru faze: integrare teoretică, mapare SDT–design, specificații pentru interfață și validare cu experți. Cadru este aplicat pentru a genera mockup-uri cu funcționalități concrete care susțin autonomia (ex. personalizare), competența (ex. sisteme de progres), și relaționarea (ex. instrumente de colaborare). Validarea realizată împreună cu trei specialiști în UX/HR confirmă coerența teoretică și aplicabilitatea practică a cadrului. Studiul oferă recomandări bazate pe dovezi pentru designeri UX și dezvoltatori de soluții HR tech care urmăresc să creeze interfețe cu motivație intrinsecă, capabile să susțină angajamentul durabil al angajaților.

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