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Flexible Working Arrangements and Technological Empowerment: A Study on the Sustainable Development of Working Mothers from an Organizational Behavior Perspective

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Abstract

In recent years, Flexible Working Arrangements (FWAs) have become an essential organizational practice supporting Working Mothers in balancing professional and family responsibilities (Zhang et al., 2025). Drawing on the perspective of organizational behavior, this study examines the empowering role of information technology platforms in linking FWAs with the sustainable development of working mothers. Using data from questionnaires and in-depth interviews with 402 working mothers in Guangzhou, China (Zhang et al., 2024a; 2024b), the research analyzes how FWAs, supported by technological platforms, enhance self-management ability, learning motivation, and time-planning skills. These factors collectively contribute to higher Job Satisfaction and Organizational Commitment, while reducing Turnover Intention. The study also identifies key challenges, including limited technological adaptability, insufficient emotional support, and cultural compatibility issues, offering both theoretical insights and practical guidance for optimizing technology-enabled flexible work models.

Keywords: Flexible Working Arrangements (FWAs), Working Mothers, Technological Empowerment, Organizational Behavior, Work–Family Balance

Introduction

With the digital transformation of the global labor market and the evolution of family-related policies, Working Mothers increasingly face the challenge of managing career development, family duties, and lifelong learning simultaneously (Zhang et al., 2024a). As a people-oriented organizational arrangement, Flexible Working Arrangements (FWAs) can be traced back to Atkinson's "core–periphery" labor flexibility model (Zhang et al., 2025). Prior studies have shown that FWAs help reduce work–family conflict and enhance employees' Job

Satisfaction and Organizational Commitment (Allen, 2001; Liu & Guo, 2023). However, the psychological and behavioral mechanisms underlying these effects—especially under conditions of technological empowerment—remain underexplored (Zhang et al., 2025).

Using China's continuing education model as a contextual foundation and integrating the application of intelligent education platforms such as Rain Classroom (Zhang et al., 2024b), this study adopts an organizational behavior perspective to analyze how FWAs and technological support jointly shape the psychological capacities of working mothers—specifically self-management and learning motivation—and how these factors influence their career-related choices, including Turnover Intention. The aim is to provide theoretical and practical references for developing more inclusive and sustainable work models. Theoretically, it develops and validates an integrative "technology-psychology-behavior" framework, elucidating the mediating roles of self-management ability, learning motivation, and time-planning ability. Methodologically, it demonstrates the value of a mixed-methods design for uncovering the nuanced processes behind quantitative findings. Practically, it offers actionable insights for organizations and policymakers seeking to design technology-enabled FWAs that promote the sustainable development of working mothers.

Integrative Framework of Flexible Working Arrangements and Technological Support

Based on a systematic literature review and mixed-methods data, this study establishes an integrated model of Technology-Enabled Flexible Work (Zhang et al., 2024a). The model posits that FWAs are not only institutional policies but, with the aid of information technology, are transformed into actionable and autonomous resources at the individual level.

Development and Forms of Flexible Working Arrangements

FWAs were first introduced in Germany during the 1960s to reduce peak-hour traffic congestion and gradually spread across Europe and the United States in the 1970s (Sun et al., 2020). The main forms include flexible working hours, telecommuting, compressed workweeks, and job sharing (Sun, 2022).

In China, with the growth of the digital economy and policy adjustments such as the three-child policy, FWAs have rapidly expanded in industries like technology, education, and services. They have become a critical strategy for attracting and retaining female talent (Maranda Ridgway, 2019).

Information Technology as an Empowering Platform for Flexible Work

This study, conducted at a continuing education college in Guangdong, China, finds that cloud computing, the Internet of Things, and intelligent learning systems (e.g., Rain Classroom) provide Working Mothers with flexible learning pathways and collaborative resources (Zhang et al., 2024b). Technological platforms empower flexible work through several mechanisms:

Resource Accessibility: Recorded courses, mobile learning, and personalized recommendations (e.g., collaborative filtering algorithms) support asynchronous and location-independent learning.

Self-Management Tools: Progress tracking and reminder systems assist employees in optimizing time allocation.

Collaboration and Feedback Mechanisms: Intelligent monitoring (e.g., isolation forest algorithms) and instant feedback enhance real-time learning intervention and support.

Collectively, these features strengthen employees' sense of autonomy, consistent with work–family boundary theory, which emphasizes flexibility and perceived control (Lin et al., 2019).

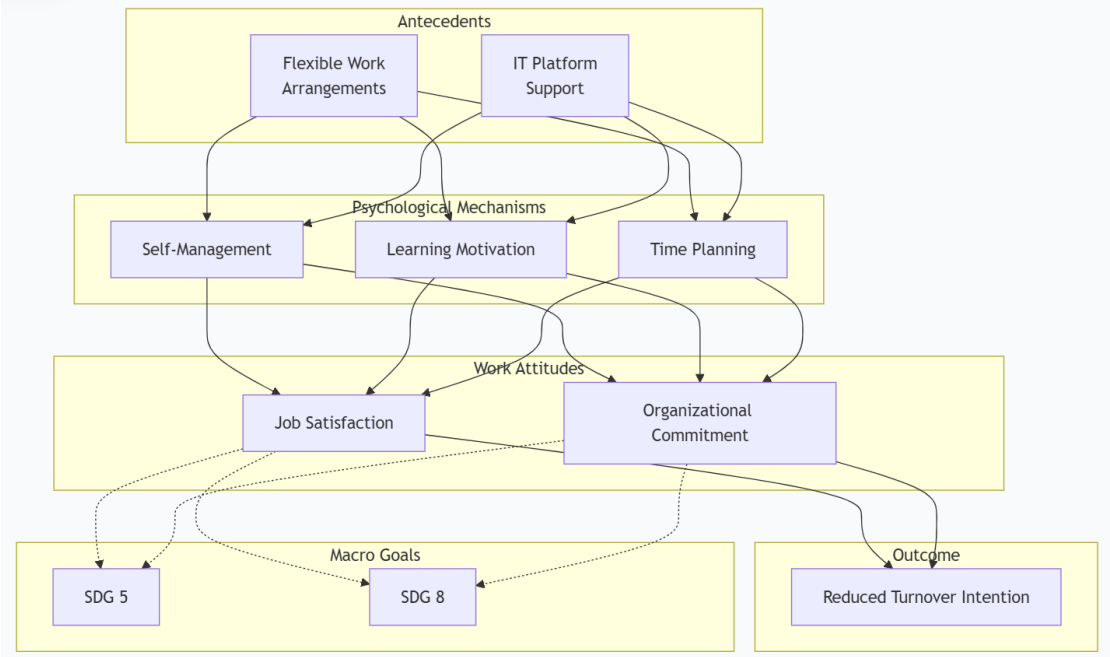

Figure 1 Theoretical Model of the Psychological Path of Technology-Enabled Flexible Work

Psychological Empowerment Pathways from the Organizational Behavior Perspective

To explore how FWAs and technological support influence the attitudes and behaviors of working mothers, this study conducted thematic analysis on qualitative data and mediation analysis on quantitative data (Zhang et al., 2025). The findings reveal a mechanism centered on psychological capacity enhancement.

Integration of FWAs with technological support empowers working mothers through three psychological pathways—self-management ability, learning motivation, and time-planning ability—which increase Job Satisfaction and Organizational Commitment while reducing Turnover Intention. These results align with work–family boundary theory (Lin et al., 2019) and conservation of resources theory (Kossek et al., 2011), both suggesting that individuals improve well-being by acquiring and managing key resources such as time and autonomy.

Pathway One: Enhancement of Self-Management Ability — From "Being Scheduled" to "Self-Directed"

Quantitative data show that Opportunities for Flexible Working and The Prevalence of Flexible Working have significant positive effects on Job Satisfaction (path coefficients = 0.178 and 0.370, $p < 0.01$) (Zhang et al., 2025). This result supports earlier conclusions that a family-supportive work environment—of which flexibility is a core feature—can improve employees' work attitudes by enhancing their sense of autonomy (Allen, 2001).

Our qualitative interviews further reveal that the increase in job satisfaction largely stems from the strengthened sense of self-efficacy that working mothers experience in a more autonomous environment.

Table 3 (a)
Model Fit Indices and Standardized Path Coefficients

Fit Index	χ^2/df	GFI	AGFI	CFI	RMSEA
Statistical Value	1.122	0.934	0.922	0.992	0.017
Reference Standard	< 3	> 0.8	> 0.8	> 0.9	< 0.08
Judgment	Qualified	Excellent	Excellent	Excellent	Excellent

Table 3(b)
Standardized Path Coefficients among Major Variables

Path Relationship	Standardized Estimate	p-Value
Job Satisfaction ← Opportunities for Flexible Working	0.178	0.001
Job Satisfaction ← The Prevalence of Flexible Working	0.370	***
Turnover Intention ← Job Satisfaction	-0.228	***
Turnover Intention ← Organizational Commitment	-0.190	0.004

*Note: $p < 0.001$.

Information technology platforms provide concrete tools and feedback to support self-management.
Case Example: Ms. Wang (33, administrative supervisor) vividly illustrated this transformation:

"Before the implementation of flexible work in my company, my learning and work were driven by fixed schedules. Now, with the learning planner and progress-tracking functions in Rain Classroom, I need to set weekly goals and monitor my own progress. It feels like having an invisible coach helping me develop self-discipline. I'm no longer passively waiting for tasks—I actively plan my entire day. This sense of control feels very empowering." (Zhang et al., 2024b)

This case demonstrates how technological platforms convert institutional possibilities into executable action plans, echoing Hildebrandt's (2006) argument that FWAs grant employees a form of "time sovereignty."

Pathway Two: Internalization of Learning Motivation — From "External Requirement" to "Intrinsic Interest"

Structural equation modeling shows that Job Satisfaction is a key mediator in reducing Turnover Intention (path coefficient = -0.228, $p < 0.01$) (Zhang et al., 2025). The interview data

further reveal that satisfaction arises not only from flexibility in work arrangements but also from the internalized learning motivation stimulated under such conditions.

Previous studies have shown that FWAs can enhance job satisfaction by reducing work–life conflict (Chung, 2022; Abendroth & den Dulk, 2011). This study further identifies learning motivation as a critical mediating factor in this process.

Technological personalization functions play a central role in the internalization of learning motivation.

Case Example: Ms. Zhang (35, project manager) shared:

"Traditional training courses were monotonous and often disconnected from real needs. Now, the platform's recommendation system pushes content based on my learning history and career background, such as 'Agile Practices in Project Management.' When learning content aligns with both career development and personal interest, learning is no longer a corporate requirement but becomes exploration and enjoyment. I've become much more proactive in acquiring new knowledge." (Zhang et al., 2024b)

This case illustrates that the personalized learning experience enabled by technology satisfies working mothers' psychological needs for competence and autonomy, consistent with the core principles of self-determination theory (Ryan & Deci, 2000). It transforms external learning demands into intrinsic motivation.

Pathway Three: Reconstruction of Time-Planning Ability — From "Fragmentation" to "Integrated Control"

Correlation analysis indicates that FWAs are significantly and negatively correlated with Turnover Intention ($r = -0.457$ and -0.486, $p < 0.01$) (Zhang et al., 2025). Qualitative findings reveal that this relationship is mediated by the reconstruction of time-planning ability, which alleviates the main source of turnover pressure—work–family conflict.

Research has shown that work–family conflict is a key factor influencing female employees' turnover intention (Deng & Lin, 2012).

Information technology—especially mobile learning tools—has made time reconstruction possible.

Case Example: Ms. Li (40, freelance consultant), whose occupation requires a high degree of time autonomy, described her experience:

"Now I manage my time as if I were managing a complex project. Using the platform's mobile app and calendar reminders, I integrate client meetings, learning modules, and family affairs within one unified system. I can even listen to educational audio on the way to work or complete quizzes while waiting for my child's extracurricular class. This model makes me truly 'own' my time. My sense of control has increased, and the anxiety from having to juggle everything has greatly reduced." (Zhang et al., 2024b)

Her experience demonstrates that, consistent with work–family boundary theory (Lin et al., 2019), technology-enabled FWAs help working mothers manage and integrate boundaries across work and family domains more flexibly and effectively. What were once fragmented and conflicting time demands across "three roles" have become a unified and controllable life system.

Table 1
Integration of Mixed-Methods Findings: Resonance between Quantitative Pathways and Qualitative Evidence

Research Question & Core Findings	**Quantitative Evidence (Generalized Verification)**	**Qualitative Evidence (Process and Explanation)**
How do FWAs enhance Job Satisfaction?	FWAs have significant positive effects on Job Satisfaction (β = 0.178, 0.370, $p < 0.01$).	Interviewees noted that platforms such as Rain Classroom operationalize FWAs by granting autonomy and reducing role conflict, thereby generating more positive work emotions.
How do FWAs reduce Turnover Intention?	FWAs indirectly reduce Turnover Intention by increasing Job Satisfaction and Organizational Commitment.	Interviewees described a shift from "high stress" to "a sense of control." When they felt supported by the organization in balancing multiple roles, loyalty increased and the desire to leave diminished.
What role does technology play?	Not directly measured in the quantitative model.	Qualitative findings clearly show that technological platforms act as both "enablers" and "amplifiers." They are not just tools for FWA implementation but catalysts for psychological and behavioral transformation.

In summary, the quantitative model verified the statistical relationships among variables, while the qualitative thematic analysis provided vivid process explanations and deeper insights into these relationships. The three psychological pathways depict a comprehensive picture of technological empowerment: FWAs offer the spatial and institutional autonomy, whereas information technology provides the tools and mechanisms to realize such autonomy and enhance core psychological capabilities—ultimately leading to more positive work attitudes and a stronger sense of career belonging.

Implementation Challenges and Limitations

Although technology-enabled Flexible Working Arrangements (FWAs) provide significant advantages, their practical implementation still faces multiple challenges from technological, emotional, and cultural dimensions (Zhang et al., 2024a).

Technological Adaptability and the Learning Threshold

Some participants encountered difficulties in understanding and operating intelligent feedback or online learning platforms, particularly those with lower levels of technology acceptance (Zhang et al., 2024b). Research shows that although AI-driven feedback systems can effectively evaluate grammar and logical structures, some learners found it challenging to interpret AI-generated comments. This highlights the need for more intuitive and user-friendly feedback mechanisms (Han & Xu, 2021).

Lack of Emotional Support and Interpersonal Interaction

Flexible work and remote learning have reduced face-to-face communication between colleagues and between teachers and students, which may lead to feelings of loneliness and a weakened sense of belonging (Zhang et al., 2024a).

Traditional teaching and in-person collaboration offer essential emotional components such as encouragement and empathy, which are crucial for maintaining a supportive learning and

work environment (Kossek et al., 2011). These emotional aspects are difficult for current technological platforms to fully replicate (Zhang et al., 2024b).

For Working Mothers, who must maintain balance under multiple pressures, the lack of emotional support can undermine their willingness to continue engaging in flexible or online learning activities.

Cultural Compatibility and Policy Coordination

Within the context of China's collectivist culture, FWAs may be constrained by team collaboration requirements. Moreover, the lack of systematic coordination between family policies and organizational systems also limits their overall effectiveness (Zhang et al., 2024a).

Studies have shown that the outcomes of FWAs vary significantly under different corporate cultures (Maja & Matija, 2019). For example, in organizations that emphasize teamwork and egalitarianism, FWAs can raise concerns about workload inequality and income disparity (Zhang et al., 2024a).

Future Development Directions

To optimize technology-enabled flexible work models and address existing challenges, this study proposes the following strategies:

Developing Intelligent–Emotional Support Systems

Future platforms could integrate affective computing and intelligent coaching functions to recognize users' emotional states and provide encouraging feedback, thereby compensating for the lack of emotional support (Zhang et al., 2024b).

Advancements in affective AI, such as emotion recognition technologies, can perceive learners' engagement levels and adjust content accordingly to deliver a more personalized and emotionally supportive learning experience (Chong, 2020).

Building Cross-Sectoral Policy Ecosystems

Governments should promote the integration of enterprise FWAs with family-supportive policies, such as childcare subsidies and continuing education vouchers, to create a friendly development environment for Working Mothers (Zhang et al., 2025).

Policymakers should also expand welfare programs, including maternity insurance, child support, and continuing education scholarships. Moreover, by investigating how marital and parenting status specifically influence turnover intention among working mothers, governments can develop more differentiated and evidence-based policy frameworks (Zhang et al., 2025).

Promoting Inclusive Technological Design

Technological platforms should strengthen cultural adaptability and user guidance by providing multilingual and context-sensitive learning and work resources that accommodate diverse groups of working mothers (Zhang et al., 2024a).

Through improved data collection and adaptive algorithms, AI systems can deliver culturally relevant examples, dialogues, and scenarios, thereby making learning experiences more inclusive and effective (Shemshack & Spector, 2020).

Conclusion

This study makes significant contributions to the literature by empirically investigating the synergistic effect of flexible working arrangements and technological empowerment on working mothers.

Our theoretical contribution lies in developing and validating an integrative 'technology-psychology-behavior' framework, elucidating the mediating roles of self-management, learning motivation, and time-planning. Empowered by information technology, Flexible Working Arrangements (FWAs) have evolved beyond a mere adjustment of time and space, becoming a key mechanism to enhance the psychological capacities of Working Mothers—such as self-management, motivation, and time-planning ability—and to promote their sustainable career development (Zhang et al., 2025).

Methodologically, this research is distinguished by its robust mixed-methods design to provide nuanced insights. Through a mixed-methods approach, this study validates an integrated “technology–psychology–behavior” pathway and provides theoretical and practical guidance for constructing future work models that are more resilient, inclusive, and sustainable (Zhang et al., 2024a).

In practical terms, the study offers actionable guidance for organizations and policymakers to foster sustainable development for working mothers. These findings not only deepen the understanding of how Flexible Working Arrangements function but also reaffirm the Conservation of Resources Theory, suggesting that technology and institutional support serve as essential resources that help individuals preserve and build psychological assets to manage multiple demands (Kossek et al., 2011).

Future research could further examine the applicability of this model across different cultural contexts and investigate the evolving mechanisms of technological empowerment as intelligent systems continue to advance (Zhang et al., 2024a).

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