

E-BOOK OF EXTENDED ABSTRACT

THE 14TH INTERNATIONAL INVENTION, INNOVATION & DESIGN COMPETITION 2025



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SIMPAN+: A TYPOLOGY-BASED FINANCIAL EMPOWERMENT APPLICATION FOR MALAYSIA'S GIG WORKERS

Nor Tasnim Syahera Rasak¹, Riza Emifazura Jaafar², Noryanne Amer³, Ima Shanaz Wahidin⁴

¹*Universiti Teknologi MARA Perak Branch Seri Iskandar Campus, 32610 Seri Iskandar, Perak Darul Ridzuan, MALAYSIA*

^{2,3,4}*Universiti Teknologi MARA Perak Branch Tapah Campus, Tapah Road, 35400 Tapah, Perak Darul Ridzuan, MALAYSIA*

¹*tasnimsyahera@uitm.edu.my,*

²*rizae378@uitm.edu.my,*

³*yanne386@uitm.edu.my,*

⁴*ima90603@uitm.edu.my*

ABSTRACT

In Malaysia's rapidly expanding gig economy, many informal and gig workers face financial instability, a lack of social protection, and limited access to financial planning tools. Despite over 92% of gig workers being financially motivated, most financial applications are designed for salaried, tech-savvy users, leaving those with low incomes, irregular work and limited tech literacy. Therefore, the SIMPAN+ application addresses this gap by introducing a dual-component innovation that is both theoretically grounded and practically accessible. The first component is a Gig Worker Typology Profiler, operationalising Self-Determination Theory into four motivational categories: Survivalist, Transitional, Supplementary, and Lifestyle workers. This classification personalises savings strategies based on real-life motivations and income behaviours, ensuring financial planning tools are relevant and achievable. The second component is a Simple Savings Planner, developed using Microsoft Excel for its familiarity, offline access and low-tech accessibility. It features a daily tracker, colour-coded dashboards, and typology-linked savings goals (e.g., RM1/day for Survivalists vs. RM5/week for Lifestyle workers). The use of visual aids and simple language ensures inclusivity, even for users with limited digital or financial literacy. SIMPAN+ represents a novel approach that bridges behavioural economics with inclusive design, making financial literacy truly actionable. The system is scalable for NGOs, community outreach, and future application development. Eventually, it empowers Malaysia's 'invisible majority' to take control of their financial futures.

Keywords: Financial inclusion, gig economy, typology-based design, micro-savings, financial empowerment

1. INTRODUCTION

A pressing concern emerges amid Malaysia's rapidly growing gig economy; many gig and informal workers lack proper financial planning and protection. Despite this growth, gig workers face significant financial challenges, including income instability, lack of social protection, and limited access to traditional financial services. According to Ng et al. (2024), over 30% of the labour force is engaged in informal or gig-based work, often without retirement plans, insurance coverage, or emergency savings. The primary motivation for gig work participation is financially driven, with 92.3% of workers citing financial purposes as their main driver (Muhyi et al., 2023). However, most existing financial applications primarily target middle-income, salaried workers, leaving Malaysia's 'invisible majority', including gig workers, roadside vendors, and informal sector participants, underserved. These individuals often have irregular income patterns and low technological literacy. Yet, current financial literacy tools and mobile applications remain too complex for their needs. As a

result, these groups are frequently excluded from mainstream financial education and digital financial services, highlighting the need for simplified, easy-to-use financial tools that match their daily realities and capabilities. Additionally, while motivation for gig work varies, no practical, accessible typology-based system exists to classify and tailor interventions for different types of gig workers. Previous studies highlighted the heterogeneity of gig worker motivations (Ng et. al., 2024; MyDiGITAL & Ipsos, 2024), but stop short of operationalising them into practical tools for financial education or planning. This innovative study aims to answer the following question: How can we develop an accessible, typology-based financial application that empowers Malaysia’s gig workers with varying technology literacy levels to achieve financial stability and social mobility?

This innovation, through the development of an application, introduces a dual-component system:

1. **Gig Worker Motivation Typology Profiler** – A simple four-type classification based on motivational drivers integrated into the application as a self-assessment tool:
 - *Survivalist*: Working due to job loss or financial hardship
 - *Transitional*: Temporarily engaged while awaiting permanent opportunities
 - *Supplementary*: Seeking additional income alongside other employment
 - *Lifestyle*: Choosing gig work for its flexibility and autonomy

Example:

- ❖ “Before using the application, users take a short questionnaire to identify their income type and motivation.”
- ❖ “Based on their answers, the application suggests a custom savings plan (e.g., RM1 daily for survivalists or RM5 weekly for lifestyle earners).”

2. **Simple Savings Planner** – A user-friendly financial tracker built in Excel, designed for individuals with low digital proficiency. It includes:
 - A daily income and expense tracker
 - Visual dashboard summaries
 - Personalised savings goals based on worker typology
 - Simplified financial advice tailored to income stability

2. METHODOLOGY

The SIMPAN+ (Simple + Simpan + Empowerment) application was developed through a two-phase process that transforms theory into a practical and inclusive solution for financially vulnerable gig workers in Malaysia.

2.1 Phase 1: Conceptualisation and Typology Framework Design

This phase began with a literature review, which identified a clear mismatch between current financial tools and the realities of gig workers. While 92.3% are financially motivated, their income patterns, job stability, and motivations differ significantly. Yet, most tools assume a uniform user base. We developed a four-type motivation-based typology grounded in the Self-Determination Theory to bridge this gap. This typology is essential because it reflects gig workers’ behavioural tendencies and financial priorities, enabling more realistic and relevant planning. It consists of:

- **Survivalist**: Working due to financial hardship or unemployment
- **Transitional**: Temporarily engaged while seeking permanent jobs

- **Supplementary:** Earning extra income in addition to a main job
- **Lifestyle:** Choosing gig work for its autonomy and flexibility

This typology is not just descriptive, but it plays a functional role in the savings planner. Each category reflects different levels of income regularity, savings capacity, and financial behaviour. By identifying a worker's typology, the tool can generate personalised savings recommendations that match the user's reality. For instance, a Survivalist with unstable earnings might be overwhelmed by traditional monthly savings goals but is more likely to succeed with micro-savings of RM1–2 per day. Meanwhile, a Lifestyle worker with a flexible income may prefer RM5 weekly contributions. This approach prevents one-size-fits-all planning, increasing the relevance and effectiveness of savings behaviour. The typology essentially acts as a behavioural lens, translating abstract financial theory into concrete, achievable daily actions.

2.2 Phase 2: Development of the Low-Tech Prototype Tool

In this phase, we translated the typology into a working prototype using Microsoft Excel, an intentionally chosen platform to suit the needs of users with low digital literacy. Excel is already familiar to many, does not require internet connectivity, and offers enough flexibility to build an interactive, intuitive tool.

The prototype contains two integrated components:

1. **Typology Profiler** – A short, scenario-based questionnaire helps users self-identify their typology. This replaces complex financial assessments with relatable prompts, such as “I do gig work because...” and automatically classifies users accordingly.
2. **Savings Planner** – A personalised financial dashboard that features:
 - Daily income and expense tracking
 - Colour-coded categories (e.g., red for essentials, green for savings) to help users visually separate spending areas, making it easier to understand where their money goes
 - Auto-generated progress charts that reflect saving achievements
 - Typology-linked savings targets (e.g., small daily goals for Survivalists vs flexible weekly goals for Lifestyle earners)
 - Culturally relevant financial tips using simple, jargon-free language

The use of visual aids like colour-coding is a deliberate design choice to support users with low literacy and tech fluency. Research shows that colour-enhanced visuals improve memory, comprehension, and usability, making financial tracking less intimidating and more engaging. For example, users can instantly see if they're spending too much on non-essentials (orange/red) or if their savings (green) are growing. This method ensures that the savings planner is not only accessible but also behaviourally aligned with users' real-world financial habits and capabilities. By aligning the tool with their motivational type and visual preferences, users are more likely to engage consistently and build long-term savings discipline.

3. CONCLUSION

This innovation addresses a critical and underserved gap in Malaysia's gig economy, i.e., the lack of accessible, tailored financial tools for informal workers with diverse motivations and low digital literacy. This project transforms academic insights into actionable, user-centred solutions by

operationalising Self-Determination Theory into a practical four-type gig worker motivation typology. Unlike existing one-size-fits-all financial applications, this tool personalises savings strategies based on real-life motivations and income behaviours, making financial planning relatable, achievable, and sustainable. Its use of a familiar built-in platform (Excel), colour-coded visuals, and simple language ensures inclusivity for users often excluded by complex fintech solutions. This dual-component system, the Typology Profiler and the Savings Planner, integrated into the SIMPAN+ application, represents a novel approach that combines behavioural theory, inclusive design, and financial empowerment. It is scalable for community-based programs and adaptable for future mobile integration. Eventually, this innovation has the potential to uplift Malaysia's 'invisible majority' by making financial literacy not only accessible but truly actionable.

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