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MALAYSIA

Advancing Digital Inclusion for Older Women Workers: Digital Resilience, Gerontechnology and Policy Pathways in South-east Asia



Presented by:

Professor Pei-Lee TEH (郑佩莉)

Head, Department of Management, School of Business

Director, Gerontechnology Lab

Asia-Pacific Regional Conferences on Population Ageing 2026,
Hangzhou, Zhejiang Province, China, 27–30 October 2026

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My Idol: Tun Dr Siti Hasmah



Tun Dr Siti Hasmah passed away aged 100 on 28 Sep 2026

Beloved former First Lady and wife of Tun Dr Mahathir Mohamad

♂101 + ♀100

70th Wedding Anniversary on 5 Aug 2026

~ ASEAN Records (12 Aug 2026) ~

Enrolled in King Edward VII College of Medicine in Singapore on a scholarship. **Only Malay female student** in her batch.

The **first woman** appointed **Medical Officer** in the Maternal & Child Health Department in Kedah. In 1974, became the first woman to be appointed the **State Maternal and Child Health Officer.**

Retired from government service in 1979.

In 1981, her husband Tun Dr Mahathir became Malaysia's fourth Prime Minister.

Led the Malaysian delegation to the United Nation Fourth World Conference on Women at Beijing, she spoke on "**Equality, Development and Peace: A Caring World**" in Sep 1995.

In 2018, honoured as a **global icon to pioneer & inspire women worldwide** by the National University of Singapore.

Conferred the **Lifetime Achievement Award** at the Asia Human Resource Development Awards 2019.





*"With proper **education** and **training**, **rural women** can help raise **literate** and **productive children** who, in turn, can be positive contributors to a nation's growth and prosperity."*

~ The Late Tun Dr Siti Hasmah ~

Source: https://themalaysianreserve.com/2026/08/12/dr-mahathir-dr-siti-hasmah-set-three-records-as-centenarian-couple/; https://www.thestar.com.my/news/nation/2026/09/28/siti-hasmah-passes-away-at-100; https://thesun.my/news/malaysia-news/people-issues/tun-dr-siti-hasmah-mohd-ali-passes-away-at-100/; https://www.nst.com.my/news/nation/2018/08/403500/malaysia-china-joint-communique-dr-ms-visit-china-mutually-beneficial; https://thesun.my/news/malaysia-news/people-issues/tun-dr-siti-hasmah-leaves-behind-a-legacy-of-rural-women-economic-empowerment/

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ASEAN Digital Masterplan 2030



EA 3.4

Promote inclusive access to digital tools, platforms, & services by addressing digital access gaps across geography, gender, economic status, Employment types, & underserved communities

EA 3.5

Support lifelong digital skills development for citizens & workforce through open digital platforms, mobile-based learning tools, and flexible learning models

EA 8.8

Promote inclusive reskilling & upskilling initiatives for MSMEs and gig workers to support their participation in the digital economy

Source: https://asean.org/book/asean-digital-masterplan-2030/

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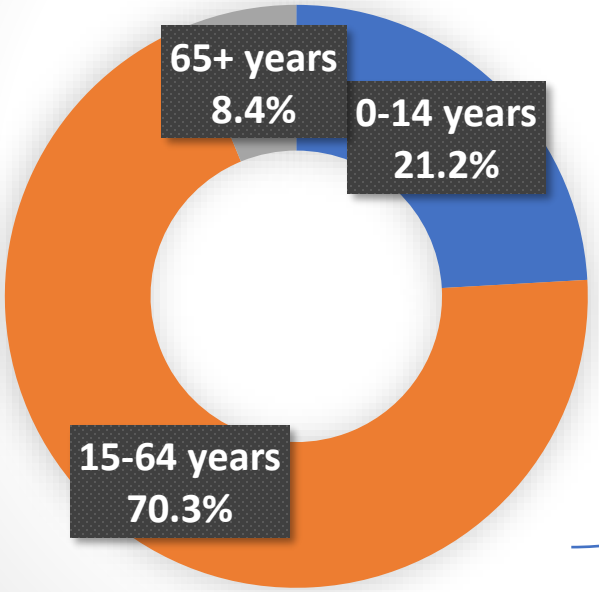
Malaysian Population







Malaysian Population in Q2, 2026
Age Group



Total Population: 34.4 mil

- 0-14 years **(21.2% = 7.3 mil)**
- 15-64 years **(70.3% = 24.2 mil)**
- 65+ years **(8.4% = 2.9 mil)**

Source: Department of Statistics, Malaysia (2026)

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Insights from Malaysia

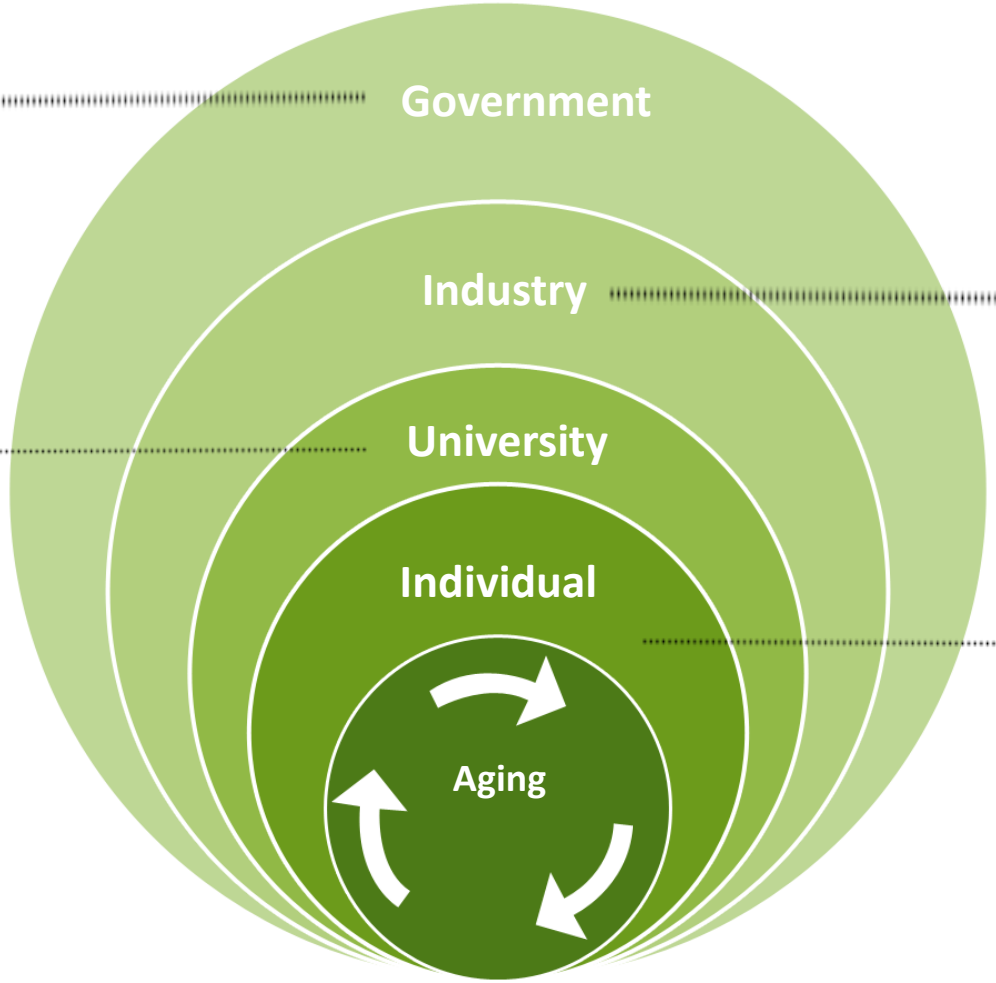
RAKYAT DIGITAL

SEBA Seniors Back in Action

University of The 3rd Age

U3A MALAYSIA Lifelong Learning for Older Malaysians

Ecosystem



Hire.Seniors

Connecting mature & experienced professionals, seniors & retirees to companies in need of skilled resources

Individuals, family members & volunteers

Source: https://u3amalaysia.wordpress.com; https://hireseniors.my

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National Programmes

RAKYAT DIGITAL

• DIGITAL SKILLS HUB

Build In-Demand Digital Skills

Discover industry-relevant training designed to equip Malaysians with the skills needed to thrive and be future-ready. There are various free and paid courses to choose from.

Browse All Courses



All **Malaysians aged ≥ 18** (upskilling or reskilling in digital competencies).

National initiative: Inclusive and accessible to individuals from all backgrounds, enabling broad & equitable participation in the digital economy.

MINISTRY OF HUMAN RESOURCES

HRD CORP HUMAN RESOURCE DEVELOPMENT CORPORATION

SEBA Seniors Back in Action

Malaysian senior citizens & retirees **aged ≥ 60**.

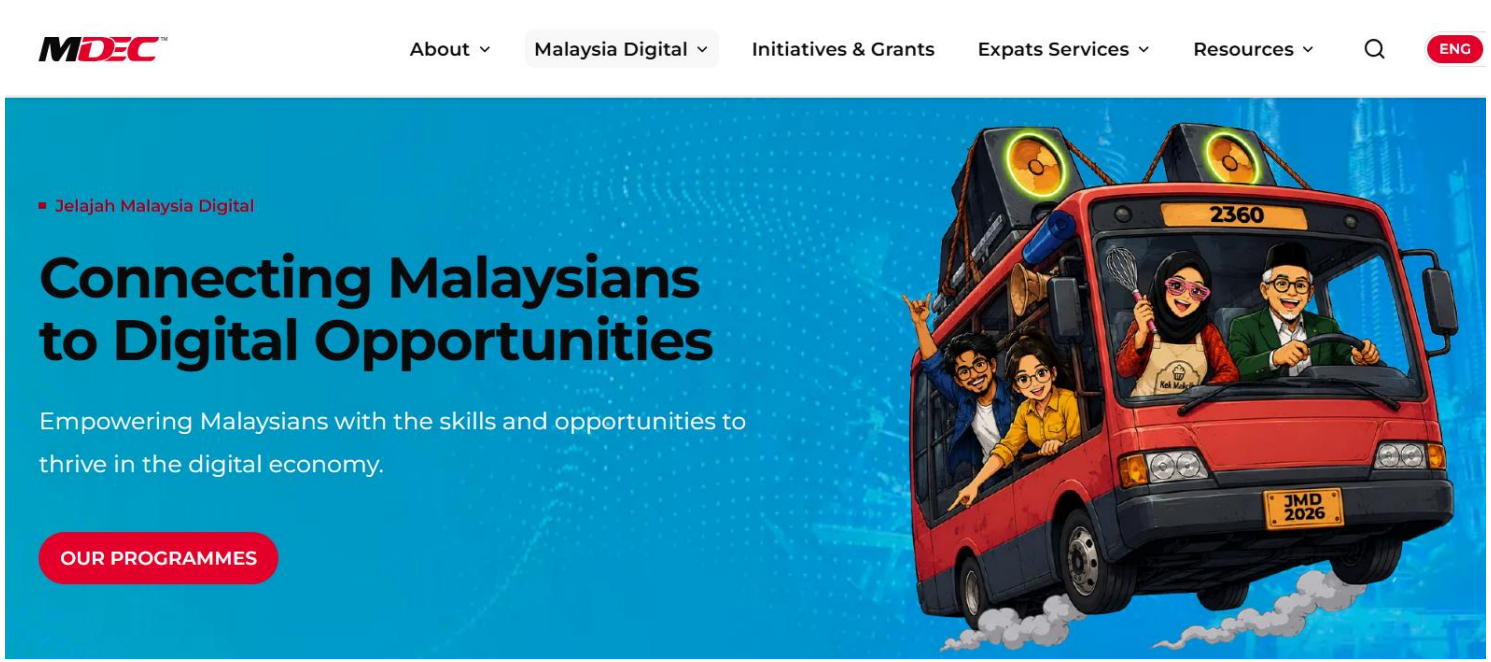
Provide the skills & knowledge for retirees who want to re-enter the workforce, are interested in pursuing employment or income generation opportunities.

Source: https://rakyatdigital.gov.my/en/skills-hub; https://hrdcorp.gov.my/plm

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National Programmes



Jelajah Malaysia Digital (JMD) is a nationwide outreach programme that connects Malaysians with practical digital opportunities through hands-on learning, industry engagement, and digital adoption initiatives.

Together with government agencies, industry partners and state governments, JMD aims to build an inclusive **digital ecosystem** where every Malaysian can participate and thrive in the digital economy.

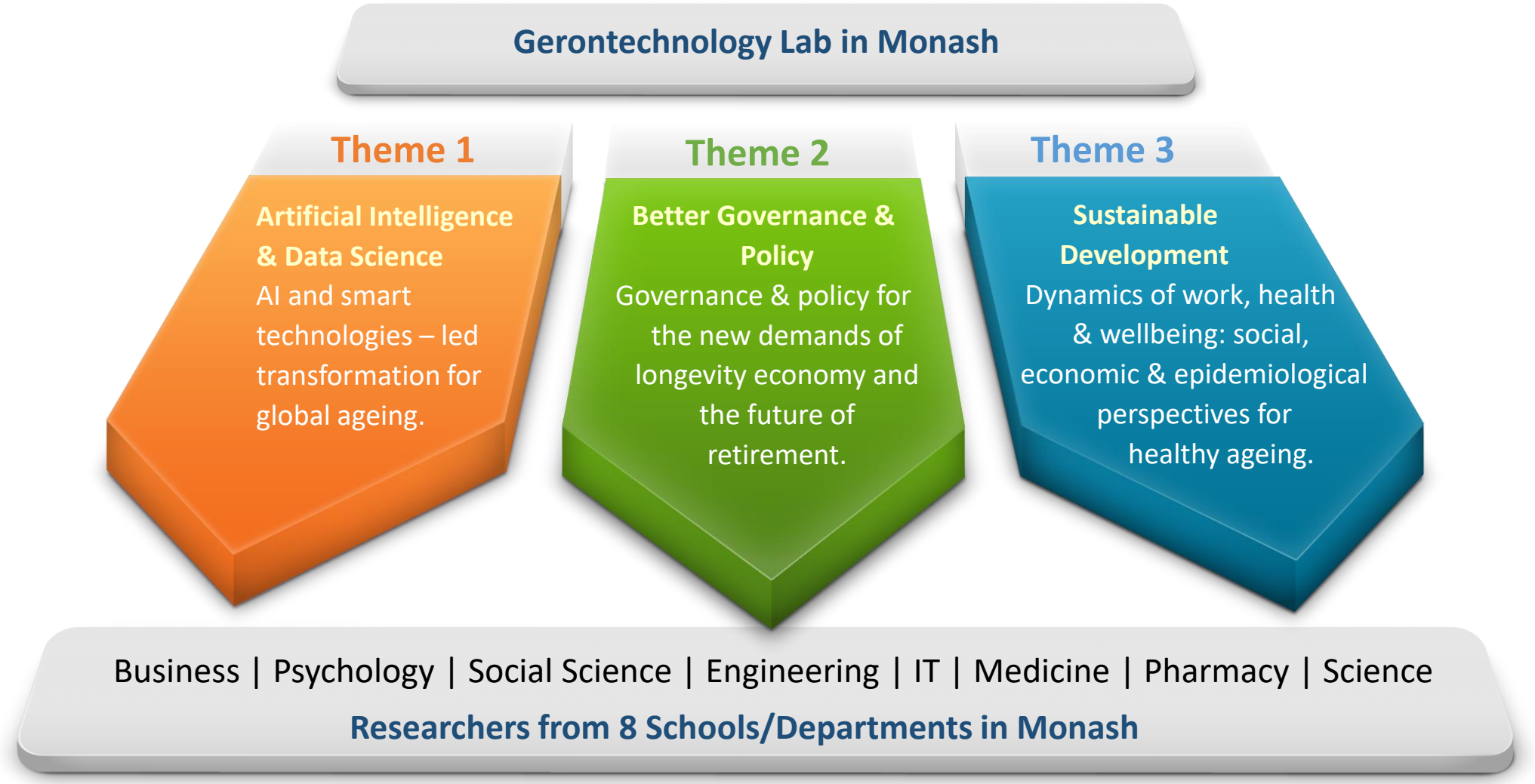
MDEC



Global Online Workforce (GLOW) is a programme for aspiring Malaysians to take up freelancing as a career and become **digital freelancers**.

Source: https://www.mdec.my/jmd#exploreourprogrammes; https://www.mdec.my/glowmalaysia

Monash Gerontechnology Lab & Research



Source: https://www.monash.edu.my/research/platforms-and-infrastructure/infrastructure/gerontechnology-laboratory

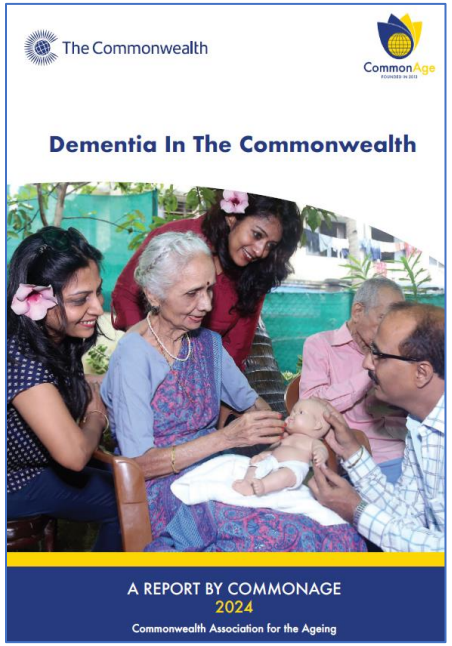
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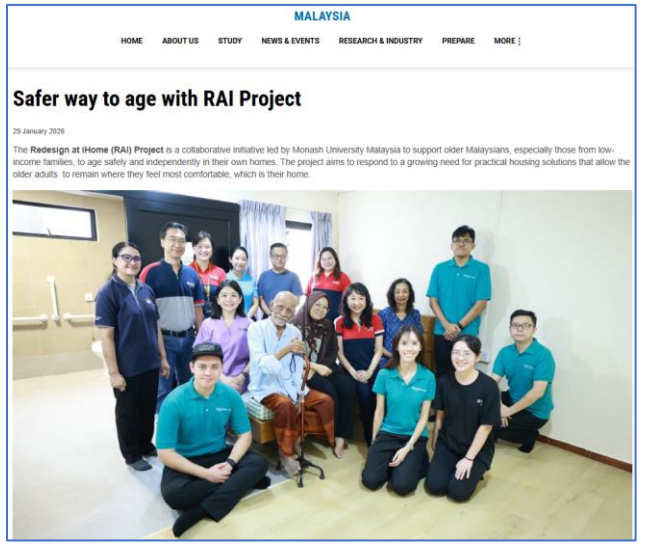
Monash Gerontechnology Lab & Research

Specialist Services:

1. Research and Development
2. Education and Training
3. Research Network
4. Engagement and Impact
5. Open Platform



Transforming Cognitive Frailty to Later Life Self-sufficiency (AGELESS) in CommonAge (6 Sep 2024), "Dementia in the Commonwealth" https://www.commage.org (Pages: 34, 105-107)



Redesign at iHome (RAI)
https://www.monash.edu.my/pages/latest/articles/2026/safer-way-to-age-with-rai-project

Avatar for Global Access to Technology for Healthy Ageing

Digital Healthy Ageing Coach for Older People

Western Pacific Regional Office (WPRO) of WHO





Exoskeleton Technology
https://www.monash.edu.my/business/News-and-Events/articles/2026/stepping-forward-exploring-exoskeleton-technology-for-safer-ageing2

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Education & Training

Virtual Digital Inclusivity Modules

Tap Tech Program (TTP) 2020



Part 1: Computer:
https://youtu.be/bHZ33bwDCjk



Part 2: Computer:
https://youtu.be/WFLX5tSp9ck



Smartphone:
https://www.youtube.com/watch?v=3YKnZpXMdSg&feature=youtu.be



Android 101:
https://www.youtube.com/watch?v=gp1XsdpBQ4o&feature=youtu.be





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Research: Women-in-tech Application

MUM-ASEAN Research Grant Scheme 2021 - 2023

Project: **Sustainable Work through Women-in-tech Application for Older Women in Malaysia and Thailand: Integrating Action Research and Design Science Approach**

Monash University Malaysia, Monash University Australia, Chulalongkorn University, Thammasat University, University of Southern California (USA), Chang Gung University (Taiwan), University of Nottingham (China).

1. To investigate the current **awareness**, **needs**, **knowledge** toward technology among **older women** in **rural** areas in **Malaysia** & **Thailand**.
2. To translate the outcomes from **social** and **cultural** aspects into **technology design** for older women in rural areas in Malaysia & Thailand.
3. To examine the **effects** of **women-in-tech application** for older women in rural areas in Malaysia & Thailand.
4. To explore the ways that **encourage** the **women-in-tech application adoption** among older women in rural areas in Malaysia & Thailand.



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Research: Women-in-tech Application

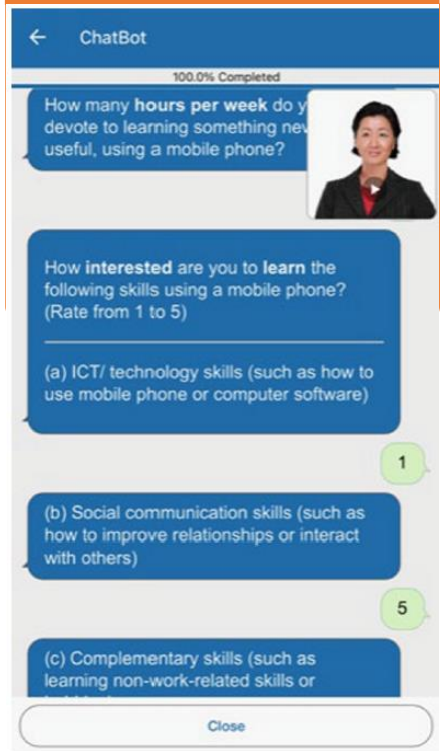
Key Outcomes

Work Package 1

- Ethics approval (6 Oct 2021)
- WIT chatbot developed using Google DialogFlow
- Languages: Bahasa Malaysia, English, Chinese, and Thai
- 103 survey responses collected in Malaysia
- 16 interview samples collected
- Qualitative themes identified

Needs assessment, chatbot survey & interviews

Button-based Chatbot & Avatar Interface



Work Package 2

WIT app modules:

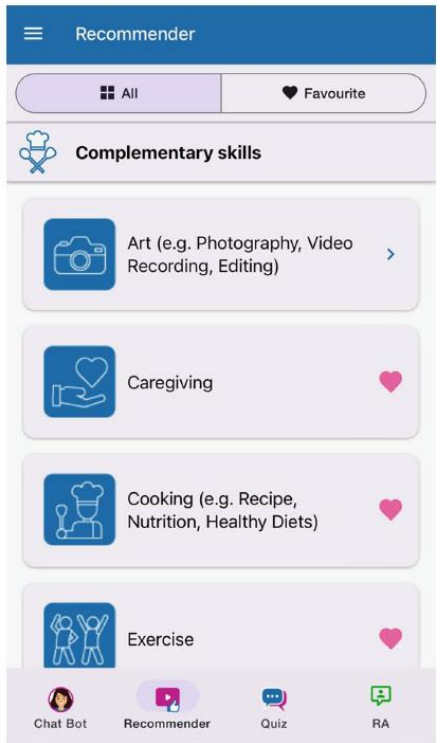
1. Chatbot module
2. Recommendation module
3. Quiz module

Key features:

1. Multilingual support
2. SITEPAL speaking characters
3. Human-like, drawing, and robot avatars
4. Second version: https://wit-app-1c930.web.app

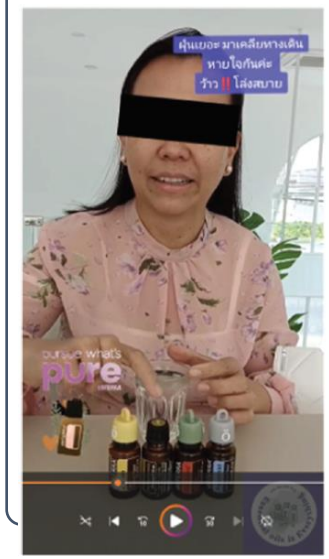
WIT application design & development

Recommender Options



Work Package 3

Training, intervention, data collection
50 Malaysia samples
50 Thailand samples





Screenshots from videos created by participants using CapCut software

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Research: Women-in-tech Application


Contents lists available at ScienceDirect

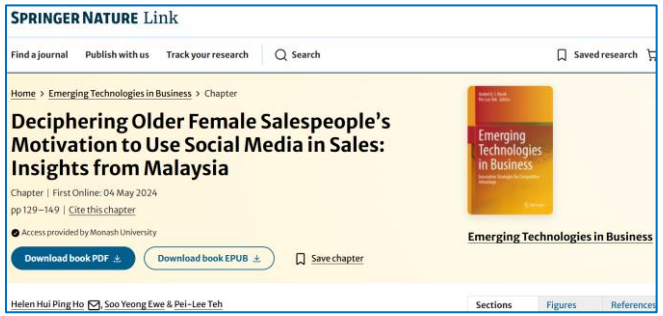
Social Sciences & Humanities Open

journal homepage: www.sciencedirect.com/journal/social-sciences-and-humanities-open

Regular Article

Digital resilience and emotional upward spirals: Extending the broaden-and-build theory through the technology learning experiences of older female sales professionals in Malaysia

Ka Po Wong [a], Soo Yeong Ewe [b], Pei-Lee Teh [b,c,*], Helen Hui Ping Ho [b], Shinyi Wu [d], Tin Tin Su [e], Chiew Way Ang [f]


SPRINGER NATURE Link

Deciphering Older Female Salespeople's Motivation to Use Social Media in Sales: Insights from Malaysia

Chapter | First Online: 04 May 2024

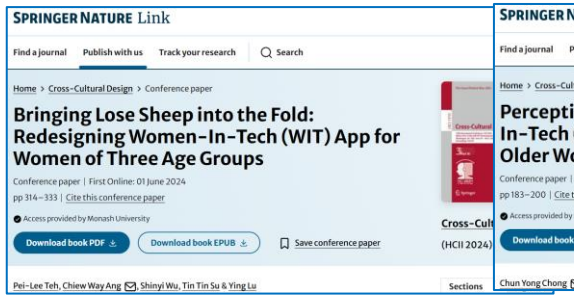
pp 129–149 | Cite this chapter

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Emerging Technologies in Business

Helen Hui Ping Ho, Soo Yeong Ewe & Pei-Lee Teh


SPRINGER NATURE Link

Bringing Lose Sheep into the Fold: Redesigning Women-In-Tech (WIT) App for Women of Three Age Groups

Conference paper | First Online: 01 June 2024

pp 314–333 | Cite this conference paper

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Pei-Lee Teh, Chiew Way Ang, Shinyi Wu, Tin Tin Su & Ying Lu


SPRINGER NATURE Link

Perceptions and Expectations of Women-In-Tech (WIT) Application: Insights from Older Women in Rural Areas

Conference paper | First Online: 09 July 2023

pp 183–200 | Cite this conference paper

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Cross-Cultural Design

(HCII 2023)

Chun Yong Chong, Pei-Lee Teh, Shinyi Wu & Ewilly Jie Ying Liew

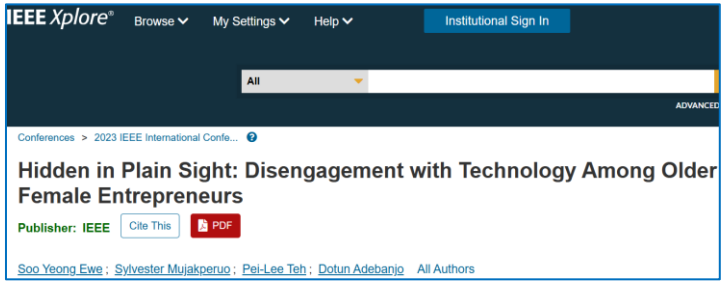

ACTIVITIES, ADAPTATION & AGING
2024, VOL. 48, NO. 2, 359–385
https://doi.org/10.1080/01924788.2023.2211428

Routledge Taylor & Francis Group

OPEN ACCESS Check for updates

Older Women's Motivation to Use Technology: A Psychological Capability Perspective

Soo Yeong Ewe [a], Pei-Lee Teh [a,b], Chooi Ling Chong [a], and Keith D. Hill [c]


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Hidden in Plain Sight: Disengagement with Technology Among Older Female Entrepreneurs

Publisher: IEEE | Cite This | PDF

Soo Yeong Ewe; Sylvester Mujakperuo; Pei-Lee Teh; Dotun Adebanjo All Authors


7:12

WOMEN-IN-TECH

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Category of Work : ARTISTIC

Date of Notification : 23 AUGUST 2024

Date of Creation : 01 MARCH 2023


ACTIVITIES, ADAPTATION & AGING
2026, VOL. 50, NO. 1, 133–166
https://doi.org/10.1080/01924788.2025.2493393

Routledge Taylor & Francis Group

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Thai Older Saleswomen's Digital Empowerment: CapCut Impact on Outcomes

Ka Po Wong [a], Soo Yeong Ewe [b], Pei-Lee Teh [b,c], Nopphol Witvorapong [d], and Keith D. Hill [e]


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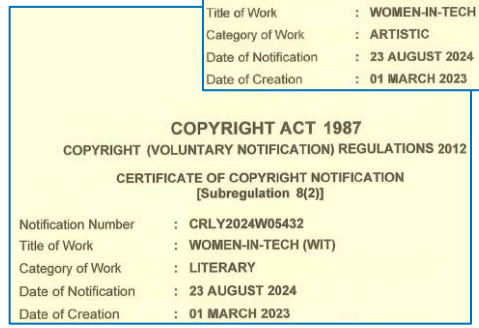
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Understanding Challenges as Needs: Smartphone Usage Among Malaysian Older Women in Rural Areas

Publisher: IEEE | Cite This | PDF

Ewilly Jie Ying Liew; Pei-Lee Teh; Soo Yeong Ewe; Chooi Ling Chong All Authors


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3 Journals & 1 Book Chapter

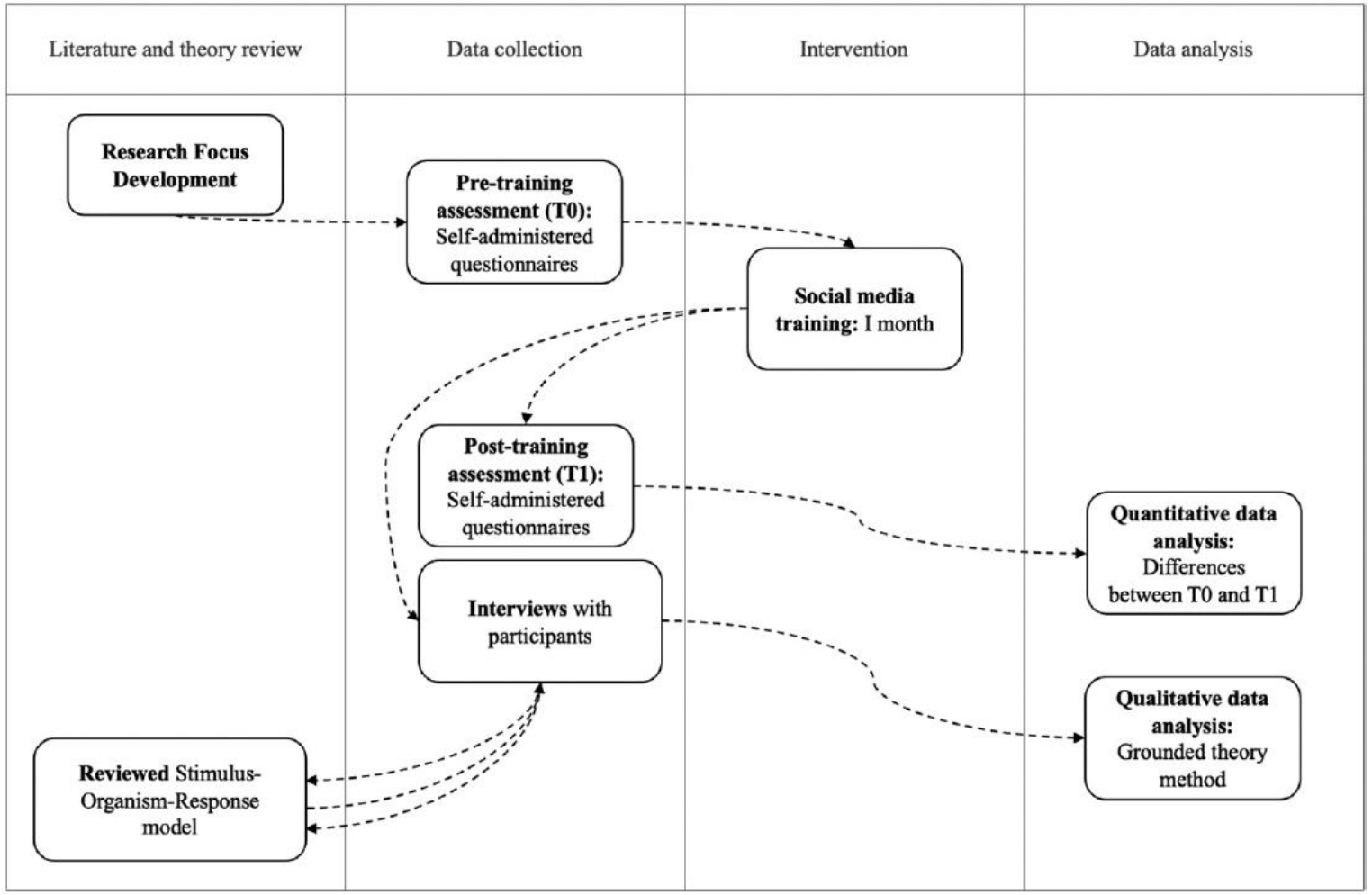
4 Conference Proceedings

2 Intellectual Property, 1 App

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Key Findings (Thailand)



Quantitative:
Significant improvements in **psychological empowerment** ($p < .05$) and **work engagement, satisfaction**, and **commitment** ($p < .01$) after training.

Qualitative:
Three key mechanisms: **technology adaptation processes, psychological transformation, and enhanced market performance**.

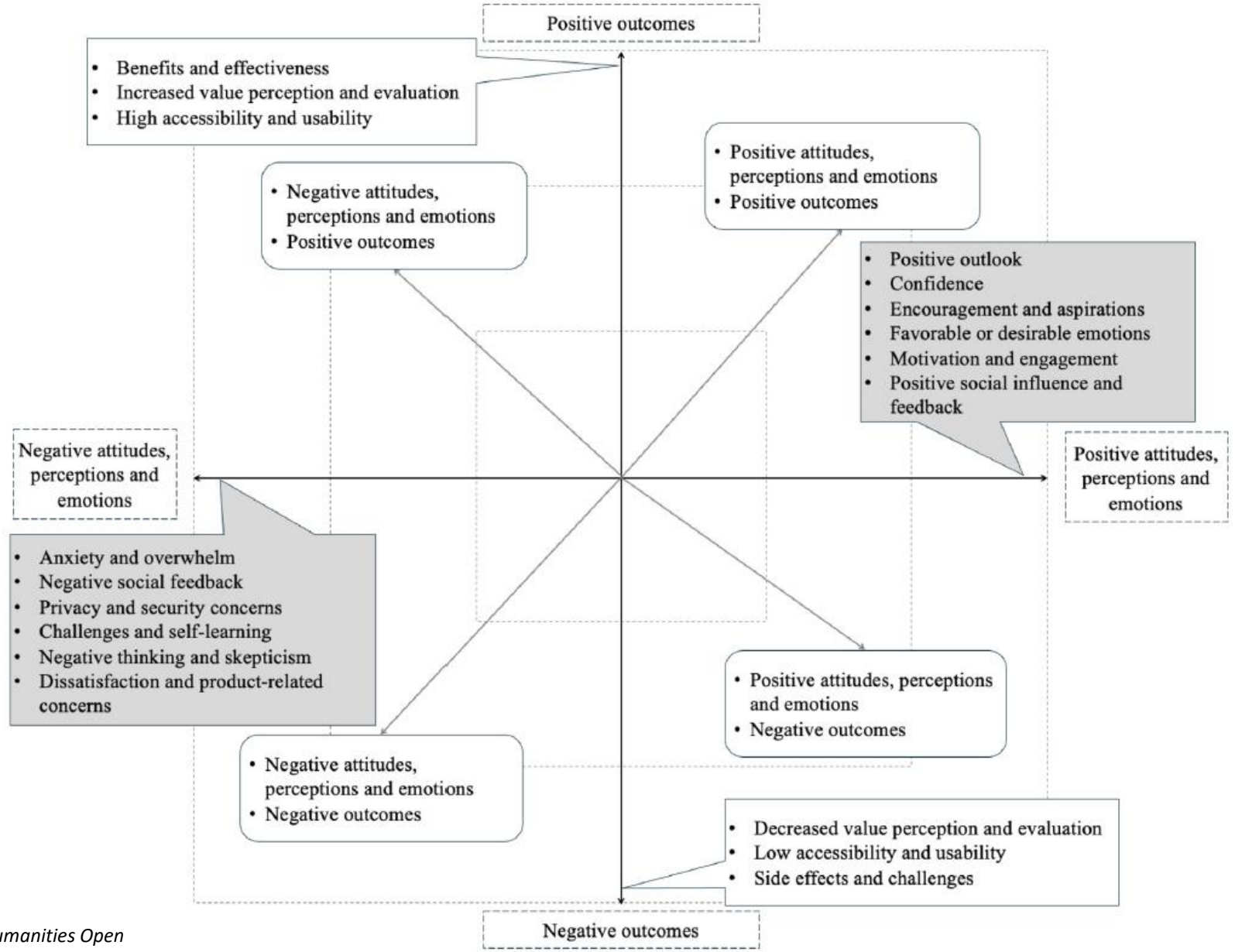
While cognitive load challenges were noted, participants developed effective coping strategies.

Wong et al. (2026) Activities, Adaptation & Aging

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Key Findings (Malaysia)



Wong et al. (2026) Social Sciences & Humanities Open

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Key Findings (Malaysia)

Attitudes, perceptions, and emotions toward technology-enhanced learning

Motivation and engagement:
Factors that drive individuals to utilize technology and stay actively involved in the learning process

1

Emotions (positive/ negative):
Positive emotions such as excitement, satisfaction, and curiosity; negative emotions like fear or anxiety

2

Social influence and feedback:
The impact of social networks, peer opinions, and feedback received from others

3

Attitudes and beliefs:
Overall stance and predisposition towards embracing technological learning advancements

4

Dissatisfaction and product-related concerns: Usability problems, functionality limitations, or unmet learning expectations

5

Negative thinking and skepticism: Doubts, reservations/critical perspectives they held regarding the pedagogical benefits or drawbacks of technology

6

Privacy and security concerns:
Concerns and considerations regarding personal information protection

7

Challenges and self-learning:
Obstacles faced, digital competencies acquired, and learning strategies employed to overcome difficulties

8

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Moving Forward



Malaysia & Thailand

1st National agencies

Agree eligibility, funding & accountability

2nd Employers, platforms & community organisations

Provide relevant education & training and continuing assistance

3rd Academia & industry

Co-design, assess usability and evaluate outcomes

It calls for coordinated action by governments, employers, technology providers and civil society to advance accessible design, protected learning time, peer and intergenerational support, inclusive workplace practices, and intersectional accountability.

Evidence from Malaysia and Thailand provides a foundation for a broader Southeast Asian agenda, with policies and interventions adapted to the region's diverse social, cultural and employment contexts.

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Contact

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https://www.monash.edu.my/business/research/our-research/gerontechnology-lab