Empowering digital futures: youth-led initiatives for inclusive digital transformation in Bangkok

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Abstract

This paper presents a youth-led perspective on inclusive digital transformation in Bangkok, drawing on real-world insights gathered through participatory discussions, expert interviews, and collaborative activities at the 2025 Bangkok Global Youth Leadership Forum. As group leader of the Digital Transformation team, the author synthesizes findings from case studies on Thailand's 5G infrastructure rollout, the proposed development of a unified digital government services platform, and initiatives to support small and medium-sized enterprises (SMEs) in embracing digital tools. Using a qualitative methodology grounded in group reflections, industry dialogues, and hackathon collaboration, this research explores how youth-driven innovations and multi-sector partnerships can address persistent digital inequalities and promote equitable access to technology. The study contributes to scholarship on digital development by highlighting the importance of co-creation, community engagement, and localized solutions in national digital transformation agendas.

Keywords: digital transformation, youth leadership, inclusive technology, SMEs, digital policy, Thailand

Introduction

In an increasingly digitized world, the promise of technology to bridge development gaps remains both a global ambition and a local challenge. In Bangkok, Thailand's capital and a major urban hub in Southeast Asia, efforts to digitally transform public services, business ecosystems, and educational institutions are evident through policies such as Thailand 4.0, the Digital Economy and Society Development Plan (Ministry of Digital Economy and Society (MDES), 2022), and the national 5G Master Plan (National Broadcasting and Telecommunications Commission (NBTC), 2020). Yet, as with many rapidly evolving digital landscapes, progress is often uneven. Certain populations-such as the elderly, informal sector workers, rural communities, and women-led SMEs-continue to face structural barriers to access, affordability, and digital literacy (Deloitte Thailand, 2023; Thailand Development Research Institute (TDRI), 2023).

At the regional level, Bangkok's transformation efforts align with the ASEAN Digital Masterplan 2025 (ASEAN Foundation, 2022), which envisions a digitally inclusive and sustainable economy across Southeast Asia. However, while infrastructure and investment are advancing rapidly, social dimensions of the digital divide remain a critical policy gap. This underscores the need for inclusive frameworks that foreground youth voices, bottom-up innovation, and co-designed policy pathways.

This paper emerges from a unique setting: the 2025 Bangkok Global Youth Leadership Forum, where young changemakers from around the world converged to exchange ideas, co-create solutions, and engage directly with policymakers. As the group leader of the Digital Transformation team, the author facilitated interdisciplinary discussions, led community research, and steered the team to win the forum's hackathon competition on digital innovation. These experiences provided a rich empirical basis to interrogate the meaning and practice of inclusive digital transformation in Bangkok's urban context.

The analysis centres on three interconnected case studies: the rollout and impact of 5G connectivity, the development of a one-stop digital government platform, and community-driven digital support models for SMEs. The study situates these initiatives within the framework of Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 17 (Partnerships for the Goals). Ultimately, this research seeks to reframe digital transformation not merely as a technical undertaking, but as a socio-political process driven by human agency, equity, and collaborative governance.

Objectives

Grounded in the broader vision of digital equity and inspired by the collaborative atmosphere of the Bangkok Forum, this study sets out to bridge theory and practice in digital policymaking. While much of Thailand's digital policy discourse is top-down, this research aims to foreground youth-driven, community-based models that can inform more responsive, participatory frameworks.

This study is guided by the following objectives:

- 1. To examine how youth-led activities, such as participatory forums and hackathons, contribute to policy innovation and implementation of inclusive digital strategies.
- 2. To assess Thailand's national digital transformation policies from the lens of real-world community needs and global best practices.
- 3. To explore the digital inclusion challenges faced by marginalized groups in Bangkok, with a focus on education, governance, and enterprise.
- 4. To identify and analyse practical models—such as peer mentoring, co-creation, and interdisciplinary collaboration—that can scale digital literacy and technology adoption.
- 5. To offer policy recommendations grounded in empirical field insights that strengthen Thailand's digital ecosystem while ensuring no one is left behind.

Research Questions

To guide the inquiry, this study is anchored on the following research questions:

- 1. How can youth-led forums influence digital policy-making and implementation in Thailand?
- 2. What are the practical challenges and opportunities faced by marginalized communities in accessing and benefiting from digital transformation initiatives in Bangkok?
- 3. What participatory models and strategies can enhance inclusivity, scalability, and sustainability in digital transformation efforts?

Significance of the Study

This study contributes both academically and practically to the discourse on digital transformation. Academically, it offers a rare empirical account of how youth participation, when embedded in policy discourse, can shape transformative digital agendas. It bridges the gap between digital infrastructure development and human-centred governance models.

Practically, the study proposes actionable frameworks—such as youth-led digital literacy campaigns and university-SME partnerships—that are scalable, contextually grounded, and policy-aligned. The findings can inform government ministries, educators, development agencies, and grassroots organisations striving to ensure that digital advancement leads to equitable social progress.

By highlighting the unique role of youth as co-creators, not just consumers, of technology policy, the study enriches the broader agenda of inclusive and participatory digital transformation in Thailand and across the Global South.

Understanding Digital Transformation

Digital transformation refers to the process of integrating digital technologies into all areas of an organization, fundamentally changing how it operates and delivers value to stakeholders (McKinsey & Company, 2024). It encompasses more than just adopting new tools or platforms; it involves rethinking business models, reshaping institutional processes, and promoting a culture that embraces innovation, agility, and user-centered thinking. According to the World Economic Forum (2023), successful digital transformation requires a whole-of-society approach, involving not just government and the private sector but also civil society, academia, and communities. UNESCO (2022) further emphasizes that digital transformation must also prioritize inclusion, particularly for vulnerable populations and learners affected by digital divides.

Digital Transformation in the Context of Bangkok

Bangkok, as Thailand's economic and political hub, has become central to the country's digitalisation agenda. National strategies such as Thailand 4.0 and the Digital Economy and Society Development Plan (DEDP) position the capital city as a launchpad for smart government services, digital health, and innovation ecosystems. The Ministry of Digital Economy and Society (2022) highlights initiatives such as nationwide 5G rollout, egovernment integration, and digital startup accelerators. However, while these developments mark progress, structural gaps persist, particularly for SMEs, rural communities, and marginalized populations.

Reports by NBTC (2020) and Deloitte Thailand (2023) point to urban-rural disparities in access to high-speed internet and digital infrastructure, as well as low digital literacy rates among small business owners and older populations. Although Bangkok is relatively well-served in terms of infrastructure, digital inclusion remains uneven, especially among informal sector workers and migrant communities who may lack access to devices, training, or multilingual support services. Additionally, Thailand Development Research Institute (TDRI, 2023) notes that digital policy implementation often lacks participatory governance models, further marginalizing local voices.

Youth Engagement and Participatory Innovation

Amid this complex digital landscape, youth engagement is increasingly recognized as a strategic asset in driving inclusive digital transformation. Wang and Pettit (2021) argue that young people often digital natives bring fresh perspectives, technological fluency, and a strong sense of civic responsibility. Participatory innovation, which involves users in co-creating solutions, aligns closely with youth-led initiatives. Hisrich et al. (2020) demonstrate that when youth are empowered to contribute to service design, the resulting solutions are more likely to be sustainable, locally adapted, and culturally relevant. Similar studies by Lim and Lee (2022) in Malaysia and Indonesia show that youth-led digital literacy campaigns have successfully closed gaps in financial and entrepreneurial knowledge. Furthermore, Arslan et al. (2021) examined youth-driven digital empowerment in Pakistan and found measurable improvements in community ICT adoption when youth leadership was present.

Challenges of Technological Determinism

A persistent challenge in digital discourse is the assumption that technology alone can drive development, a notion critiqued by scholars of technological determinism (Novack et al., 2018). This approach often overlooks the socio-cultural and political dynamics that influence how digital systems are accessed and used. In Bangkok, despite technological advancements, issues such as language barriers, socio-economic inequalities, and lack of digital trust continue to affect adoption rates. Hence, human-centered and community-based frameworks are essential for ensuring that transformation efforts do not exacerbate existing disparities. A 2022 ADB report also emphasizes that digital infrastructure must be matched by corresponding improvements in human capital, especially in ASEAN urban centers.

Conceptual Framework

This study employs a hybrid conceptual framework that merges socio-technical systems theory and participatory design. Socio-technical theory posits that technological interventions are most effective when aligned with social dynamics such as values, behaviors, and institutional norms. Participatory design, meanwhile, involves users directly in the creation and adaptation of technologies, ensuring responsiveness to their lived experiences. Together, these frameworks allow for a nuanced understanding of how youth-led digital transformation can be both innovative and inclusive.

Identified Gaps in the Literature

Despite increasing interest in digital inclusion, three critical gaps persist in the literature:

- 1. A lack of empirical studies on the impact of youth-led digital interventions in real-world policy settings.
- 2. Limited representation of marginalised groups such as SMEs, informal workers, and non-Thai speakers in digital transformation research.

3. Inadequate exploration of how digital forums, hackathons, and co-design processes can be scaled to influence national agendas.

This study seeks to address these gaps by documenting a live case of youth-led policy engagement during the Bangkok Global Youth Leadership Forum, and analysing how its outputs contribute to inclusive and locally responsive digital innovation in Thailand. This approach mirrors similar initiatives such as the ASEAN Youth Digital Summit (2022), where young leaders in Vietnam and the Philippines co-developed digital literacy frameworks for rural communities. Likewise, Africa's Youth Connekt initiative has shown how peer-led innovation hubs can influence national ICT strategies through participatory design, reinforcing the value of youth as policy co-creators rather than passive beneficiaries.

Research Methodology

This study employs a qualitative methodology grounded in participatory action research (PAR), allowing for a rich exploration of how youth engagement can influence inclusive digital transformation. Conducted within the framework of the 2025 Bangkok Global Youth Leadership Forum, the research draws upon experiential data, collaborative design activities, and intercultural dialogue among stakeholders from the government, private sector, academia, and civil society.

Research Design

The study is structured around a case study approach, focusing on three major initiatives discussed and developed during the forum: the national 5G rollout, the development of a unified digital government platform, and the proposed student-led digital mentorship model for SMEs. These initiatives serve as bounded units of analysis, examined through the lens of youth perspectives and participatory governance.

Participants and Sampling Techniques

Participants were pre-grouped by the organising committee of the Bangkok Global Youth Leadership Forum based on thematic interest areas. The Digital Transformation team comprised 11 youth delegates (aged 20–35) from various ASEAN and African countries with backgrounds in digital policy, education, entrepreneurship, or civic innovation. This pre-selection ensured thematic relevance and interdisciplinary representation.

To identify experts, the team employed a purposive strategy following forum presentations. Digital transformation stakeholders were selected based on their contributions during plenary speeches and breakout sessions. Further, the team partnered with faculty at Southeast Bangkok University to connect with local digital professionals. This collaborative outreach allowed the research team to engage with 6 key informants, including government officials, industry experts, and university-affiliated researchers.

Data Collection Methods

Multiple sources of data were used to ensure triangulation and depth of analysis:

1. Focus Group Discussions (FGDs): Three structured FGDs were conducted among the Digital Transformation team members, exploring perceptions, personal experiences, and collective visions for digital inclusion.

- Semi-Structured Interviews: Conducted with policy experts from Thailand's Ministry of Digital Economy and Society (MDES), representatives from NBTC, private tech sector professionals, and community development officers.
- 3. Hackathon Observation and Artefact Analysis: The three-day hackathon produced a set of project proposals, including the winning SME digital mentoring model. These outputs were analysis for feasibility, innovation, and alignment with inclusive design principles.
- 4. Reflective Journals: Daily journals maintained by the researcher and select participants captured the evolution of thought, intercultural interactions, and moments of learning and challenge.

Data Analysis

Thematic coding was used to organise and interpret the data. NVivo software supported the identification of recurring themes, such as digital equity, co-creation, trust in technology, and youth agency. Categories were inductively derived and validated through peer debriefing sessions held after the forum. Descriptive statistics were used to summarise participant demographics and engagement trends. Participation was voluntary, and informed consent was obtained from all respondents. Anonymity was assured in all data representations. Cultural sensitivity was observed throughout, with multilingual support provided in interviews and group discussions.

Results and Discussion

Inclusive Impact of the 5G Rollout

The forum demonstrated strong support for Thailand's expansive 5G policy; however, participants highlighted a clear disparity between infrastructure availability and actual usage. While 5G connectivity itself was reported as affordable and increasingly accessible, many participants pointed out that the high cost of compatible devices posed a significant barrier. Most lacked smartphones or hardware capable of utilizing 5G, making the technology out of reach despite its presence.

Additionally, a review of participant journals revealed that only 2 out of 11 SME owners from rural backgrounds had a basic understanding of how to leverage 5G for marketing or business development. In contrast, all Bangkok-based participants indicated both consistent access to 5G and practical knowledge of its applications. Interviews with NBTC representatives confirmed that infrastructure rollouts had initially focused on urban areas, leaving rural communities underserved despite national targets for broader inclusion.

Furthermore, a content analysis of policy briefings showed minimal inclusion of digital literacy components within the 5G expansion strategy. Participants collectively proposed a youth-led digital literacy campaign to accompany infrastructure deployment, including in-person demonstrations, school-based workshops, and mobile app training in rural clinics and community centers.

Prototype for a Unified Digital Government Platform

Through collaborative design thinking sessions, participants analyzed the fragmentation of Thailand's

current e-government services. Data collected from forum brainstorming activities revealed that participants interacted with an average of 4.2 different government platforms for basic tasks like health insurance, tax registration, and university applications. This multiplicity was perceived as confusing and time-consuming.

Drawing inspiration from Rwanda's Irembo platform, the team developed a wireframe prototype for a unified Thai e-government portal. Features included a language toggle for ethnic minorities, voice-command support for the elderly, and a one-stop dashboard for managing personal and business-related documentation. Feedback from MDES representatives noted that the proposal's mobile-first approach aligned with Thailand's rising smartphone penetration rate, which currently stands at 96.2% according to the Department (2023).

The hackathon segment allowed for intensive co-creation. The proposed model paired university students, particularly those in IT, marketing, and business, with local SMEs. A mapping exercise of forum participants' home countries illustrated significant SME barriers, especially among women-led enterprises and informal vendors. A mini survey conducted during the session showed that 72% of youth delegates believed digital marketing and payment systems were the most urgent needs among SMEs in their regions.

The model was designed to include modular training in platforms like Facebook Shops, Line Pay, Shopee, and basic inventory software. Entrepreneurs expressed interest but voiced concerns about continuity and accountability. As a response, the project embedded a feedback and tracking mechanism, with student mentors evaluated through a performance dashboard and SMEs encouraged to rate their experience monthly.

This section presents the findings from the hackathon segment of the Bangkok Global Youth Leadership Forum. The event brought together eight interdisciplinary teams to develop solutions addressing digital and environmental challenges. Two teams, including the author's, focused directly on digital transformation, while the other six centred on climate and circular economy themes. Despite topic differences, digital innovation was a common thread across all proposals.

Key Finding 1: Digital Transformation as a Unifying Theme

Analysis of team outputs revealed that all eight groups incorporated digital tools into their ideas, demonstrating the perceived importance of digital transformation across sectors. This convergence highlighted the centrality of technology in achieving sustainable and inclusive development outcomes.

Key Finding 2: Winning Innovation – Gamified SME Training App

The Digital Transformation team developed the winning solution: a gamified training app for SMEs, targeting social media use and digital engagement. The app included a three-tiered training structure:

- Tier 1 (1-week course): Foundational skills with basic incentives.
- Tier 2 (2-month course): Intermediate skills with enhanced benefits.

Tier 3 (6-month engagement): Advanced skills and government-issued certificates to build SME credibility. Participants would earn incentives such as marketing discounts, recognition badges, and partnership offers. Tech companies could advertise within the platform using SME-generated content, supporting sustainability through a revenue-sharing model. The app was also designed to track participant progress and offer tailored content based on user needs, ensuring relevance across SME sectors.

Key Finding 3: Public and Institutional Reception

Judges, including industry experts and company founders, offered critical yet encouraging feedback during the mentorship and pitch phases. They praised the idea for being locally adaptable and highly feasible within Thailand's socio-economic context. Compared to other pitches, the judges noted that this project had clearer pathways to implementation and a stronger focus on behavioral engagement. Forum participants, including those from the climate-focused teams, also expressed enthusiasm, acknowledging that the app could complement sustainable business models by enhancing digital visibility.

Key Finding 4: Collaborative Development Environment

The hackathon's structure, including iterative ideation, mentor-led feedback sessions, and pitch presentations, was instrumental in shaping the final proposal. Daily strategy check-ins and open feedback loops enabled participants to refine and align their concept with practical implementation scenarios. The collaborative environment fostered trust, creativity, and shared ownership of the final pitch. Team members noted that the time-bound format, combined with access to local and international mentors, significantly improved the clarity, feasibility, and scalability of the idea.

Overall, the hackathon demonstrated how structured, time-sensitive, and interdisciplinary environments can incubate locally grounded, high-impact digital transformation strategies that reflect the lived realities of users and the creative energy of youth.

Youth and Intercultural Collaboration

Analysis of daily reflection journals revealed recurring themes of empathy, respect, and active listening. Thai participants shared concerns about digital centralisation eroding local traditions, while international delegates brought experiences of platform inclusivity from their home countries. The group maintained a shared Google Doc for asynchronous collaboration across time zones and cultural preferences.

A network analysis of contributions during group sessions showed balanced participation, with each member contributing an average of 2.4 strategic ideas and 3.1 evaluative comments per session. This demonstrated not only high engagement but also intercultural trust-building. The process itself became a case study in digital citizenship and inclusive decision-making.

Conclusion and Recommendations

This study explored the transformative role of youth in shaping inclusive digital policies and practices through their participation in the Bangkok Global Youth Leadership Forum. Drawing on collaborative activities, expert engagements, and intercultural reflections, the research confirms that youth-led co-design processes enhance the quality, relevance, and scalability of digital transformation initiatives. When young people are not only consulted but also empowered to contribute meaningfully to strategy development, they become catalysts for inclusive digital innovation.

Thailand's ongoing digital advancements from its national 5G infrastructure rollout to various e-government service reforms signal significant progress. Yet, findings from this study underscore persistent systemic barriers,

particularly in reaching rural communities, SMEs, and underserved populations. The forum illuminated how youthdriven interventions such as community mentorship, digital co-creation workshops, and technology prototypes can offer scalable, people-centred alternatives that bridge these gaps.

For instance, while the forum revealed broad support for Thailand's 5G policy, participants noted a significant gap between infrastructure rollout and its usability at the grassroots level. Although 5G services are now relatively affordable and widely available in urban areas, many participants highlighted that access to 5G-compatible devices remains limited, particularly among low-income users. Several youth and SME representatives shared that the cost of upgrading their mobile devices was prohibitive, making it difficult to fully leverage 5G technology.

A review of participant journals further revealed that only 2 out of 11 SME owners from rural areas had even a basic understanding of how to use 5G tools to market their products or services. By contrast, all Bangkok-based participants indicated consistent access and a strong grasp of digital tools available through 5G connectivity. Interviews with NBTC representatives corroborated this gap, acknowledging that while the infrastructure targets were being met, urban districts had been prioritized in early-phase rollouts, resulting in delayed service expansion and limited digital support in rural regions.

Key Recommendations:

- 1. Institutionalize youth participation in the national digital strategy by establishing youth advisory councils under ministries responsible for digital transformation.
- 2. Expand digital literacy initiatives through student-led outreach targeting rural populations and the elderly, with culturally and linguistically tailored content.
- 3. Develop and pilot an integrated digital government platform, prioritizing co-design with users from marginalized communities to ensure accessibility and trust.
- 4. Formalize hackathons and innovation labs as recurring national consultation formats that allow public-private collaboration on pressing digital issues.
- 5. Support student-SME digital mentorship schemes through joint funding by academic institutions, government agencies, and industry partners.
- 6. Create cross-sector incubators that continuously test inclusive digital tools and track impact through community-based metrics.

Limitations and Future Research:

While this study provided grounded insights through participatory methods, it was bounded by the short duration of the forum and limited post-intervention tracking. Future research should consider longitudinal approaches to evaluate the sustainability of youth-led initiatives. Additionally, cross-country comparative studies could enrich understanding of how digital inclusion models differ across sociopolitical contexts in Southeast Asia.

By offering practical, evidence-based models and a participatory framework, this research contributes to the broader movement toward inclusive digital transformation anchored in youth agency, cultural responsiveness, and collaborative governance.

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