

Empowering Neet Girls Through Digital Skills: The Digitally Intelligent Girls (Di-Girls) Initiative's Potential, Pitfalls and Prospects

Analisa Hamdan¹, Abtar Darshan Singh, Jonathan Kovilpillai, Intan Farahana Kamsin, Choneratt Suriyarangsun, Wachira Brahmawong, Pimprapa Phanphai, Savita Aggarwal

¹Asia Pacific University of Technology & Innovation, Kuala Lumpur, Malaysia, ²Universiti Kebangsaan Malaysia, Selangor, Malaysia, ³Sukhothai Thammthirat Open University, Bangkok, Thailand, ⁴Institute of Home Economics, University of Delhi, India

Email: abtar@apu.edu.my, jonathanj@apu.edu.my, intanfarahanakamsin@ukm.edu.my, choneratt.sur@stou.ac.th, wachira.pra@stou.ac.th, pimprapa.pha@stou.ac.th, savitaaggarwal@gmail.com

Corresponding Author Email: analisa@apu.edu.my

To Link this Article: <http://dx.doi.org/10.6007/IJARPED/v13-i1/19396>

DOI:10.6007/IJARPED/v13-i1/19396

Published Online: 30 January 2024

Abstract

The Digitally Intelligent-Girls (DI-Girls) initiative aims to empower Not in Education, Employment, or Training (NEET) girls aged 15-24 in Malaysia and three other Asia-Pacific countries by providing digital skills. These girls, primarily from rural and underserved areas, face challenges accessing and utilizing Information and Communication Technology (ICT). This paper evaluates the initiative's approach, drawing insights from past studies, and emphasizes its potential to address the socioeconomic challenges these girls face. The initiative employs a mixed-method approach, spanning four phases, to understand and address the complexities of ICT challenges in rural settings. A significant population of NEET girls within the specified age range were engaged, especially during the content creation and pilot testing phase, ensuring a comprehensive representation. These challenges include infrastructural gaps, economic constraints, sociocultural barriers, and digital literacy deficiencies. The initiative's strength lies in its collaboration with local partners, ensuring effective outreach. Beyond bridging the digital divide, the DI-Girls initiative aims for broader impacts: socioeconomic upliftment, reduced youth unemployment, and sustainable development. The program's potential goes beyond mere skill acquisition; it plants the seeds for innovation and entrepreneurship, enabling these girls to become leaders and change-makers in their communities. Their resilience and adaptability, when armed with essential digital tools, can catalyze significant digital advancements. The paper concludes by highlighting the initiative as a model for a digitally inclusive future, emphasizing that collaborative efforts can overcome barriers, making digital empowerment universally accessible.

Keywords: DI-Girl's Initiative, NEET Girls, Digital Empowerment, Rural ICT Challenges, Socio-Economic Upliftment, Asia-Pacific

Introduction

The rapid digital transformation of the 21st century has brought forth unprecedented opportunities and challenges. As the world becomes increasingly interconnected through digital platforms, the ability to access and utilize these platforms effectively has become a crucial determinant of socio-economic success. The Digitally Intelligent Girls (DI-Girls) Initiative in Malaysia stands as a testament to the recognition of this digital imperative, particularly for the vulnerable demographic of Not in Education, Employment, or Training (NEET) girls aged 15-24. These girls, often hailing from rural and underserved communities, are at a distinct disadvantage in the digital realm, a concern that the DI-Girls initiative seeks to address (Neagu et al., 2021).

NEET represents a group of young individuals who are disengaged from both educational and employment opportunities. This disengagement can be attributed to a myriad of factors, including socio-economic challenges, lack of access to quality education, and socio-cultural barriers. In the context of rural areas, the challenges are further compounded. For instance, studies have highlighted the significant need-service gap in the delivery of ICT services in rural areas, emphasizing the lack of robust infrastructure, socio-cultural resistance, and economic barriers (Narula & Arora, 2010). Furthermore, the digital divide in rural settings is not merely a technological challenge but also a socio-cultural one, where traditional norms and limited awareness can hinder the uptake of digital tools (Okon, 2015).

The DI-Girls initiative, therefore, emerges as a timely and essential intervention, aiming to bridge this digital divide and empower NEET girls with the digital skills they need to thrive in today's world. By focusing on this demographic, the initiative not only addresses the immediate challenges faced by these girls but also taps into the broader potential of fostering socio-economic upliftment, reducing youth unemployment, and promoting sustainable development in Malaysia (Bynner & Parsons, 2002). As we explore deeper into the potential, pitfalls, and prospects of the DI-Girls initiative, it becomes evident that the stakes are high, and the rewards are transformative.

Literature Review

The literature review examines the challenges and opportunities related to the NEET demographic, digital inclusion, and youth unemployment in the Asia Pacific region. It begins with an exploration of the NEET concept, highlighting its socio-economic complexities. The focus then shifts to the digital divide in rural areas, especially in countries like Malaysia, Thailand, India, and Pakistan. The significance of digital empowerment in the Asia Pacific context is discussed, followed by an analysis of youth unemployment in Malaysia and its broader implications. Concluding the review, the DI-Girls initiative is presented as a pioneering effort in Malaysia, aiming to empower NEET girls through digital means.

Understanding NEET

The term NEET, representing individuals "Not in Education, Employment, or Training", has garnered significant attention from global institutions, policymakers, and researchers alike. Recognized by institutions such as the World Bank and UNESCO, the NEET demographic epitomizes a vulnerable segment of the youth population, particularly those aged 15-24. Historically, this group has grappled with a myriad of socio-economic challenges, often culminating in long-term marginalization (World Bank, 2021; UNESCO, 2019).

A closer examination of past studies reveals the multi-dimensional nature of the challenges faced by the NEET demographic. For instance, research by Ruesga-Benito et al. (2018)

underscores that the primary factors contributing to the NEET situation are more closely linked to poverty and social exclusion than to the broader economic environment. This finding resonates with the assertion that NEET individuals, especially those from rural and underserved communities, often hail from more disadvantaged backgrounds, characterized by low educational attainment and economic inactivity (Carcillo & Königs, 2015). Furthermore, a study by Ralston et al (2021) highlights the long-term scarring effects associated with being NEET, suggesting that such status can lead to persistent economic inactivity and unemployment.

However, it's crucial to note that the challenges faced by the NEET demographic are not solely economic. Gutiérrez-García et al (2018) emphasize that while NEET is undeniably an economic and mental health issue, it is not predominantly a motivation issue. This nuanced understanding challenges the often-oversimplified portrayal of NEET individuals as merely "lazy" or "unmotivated". Moreover, the socio-spatial factors, including gender, class, and education, play a pivotal role in the geographically uneven expansion of NEETs across regions, as highlighted by (Avagianou et al., 2022).

In light of these findings, it becomes evident that addressing the challenges faced by the NEET demographic necessitates a holistic approach. While economic interventions are undeniably crucial, there's an equally pressing need to address the socio-cultural and psychological aspects that contribute to the NEET phenomenon. As we delve deeper into the DI-Girls initiative and its potential to empower NEET girls in Malaysia, it's imperative to keep these multifaceted challenges at the forefront of the discourse.

The Digital Divide in Rural Areas

The digital divide, often perceived as a mere technological gap, is in reality a reflection of deeper socio-economic and cultural disparities. This divide is particularly pronounced in rural areas of developing countries, where traditional norms, limited infrastructure, and economic constraints exacerbate the challenges faced by marginalized groups, such as the NEET girls. Their exclusion from the digital realm not only further marginalizes them but also denies them opportunities that are readily available to their urban counterparts (Taufiq et al., 2016). In the context of Asia Pacific countries, including Malaysia, Thailand, India, and Pakistan, the digital divide takes on unique dimensions. For instance, a study on Pakistan highlights that the digital divide in the country is underpinned by a myriad of factors, including the urban-rural divide, gender disparity, income and educational inequalities, and religious and cultural barriers (Jamil, 2021). Similarly, in India, obstacles such as illiteracy, lack of skills, inadequate infrastructure, and limited investment in rural areas have been identified as significant barriers to bridging the digital divide (Singh, 2010). Furthermore, caste-based disparities in the adoption of digital technologies have been observed in rural Pakistan, indicating the intersectionality of socio-cultural factors in shaping the digital divide (Abdullah, 2015).

The situation is not unique to these countries alone. Across the Asia Pacific region, the digital divide is recognized as a significant impediment to socio-economic development. For instance, a study on Thailand emphasizes the mediating role of the digital divide in the outcomes of short-term transportation policy, suggesting that addressing this divide is crucial for the effective implementation of developmental policies (Setthasuravich & Kato, 2020). In essence, the digital divide in rural areas of Asia Pacific countries is not just a technological issue but a complex interplay of socio-economic, cultural, and infrastructural challenges. Addressing this divide requires a multi-faceted approach that takes into account the unique socio-cultural and economic contexts of each country.

The Imperative of Digital Empowerment

Digital empowerment transcends mere skill acquisition; it embodies the principles of agency and autonomy. In the digital age, the ability to access, utilize, and leverage digital tools and platforms is not just a luxury but a necessity. Historically, societies that have prioritized digital literacy, especially among marginalized groups, have reaped broader socio-economic benefits, ranging from increased GDP growth to enhanced social mobility (Mudra, 2020; Setiawan et al., 2022).

In the Asia Pacific context, the significance of digital empowerment becomes even more pronounced. A study on Pakistan, for instance, highlighted the transformative social impacts of sharing economy digital-platforms, emphasizing their potential to foster a culture of trust, boost family confidence, and empower women (Malik & Wahaj, 2019). Similarly, research on the digital economy in the Asia-Pacific region underscored the pivotal role of income level and digital skills in driving economic growth (Maji & Laha, 2020). In Thailand, the digital divide was identified as a mediating factor influencing the outcomes of short-term transportation policies, suggesting that addressing this divide is integral to the effective implementation of developmental strategies (Setthasuravich & Kato, 2020).

Moreover, the digital empowerment of marginalized groups, such as NEET girls in rural areas, can serve as a catalyst for socio-economic transformation. By equipping them with digital skills and tools, we not only bridge the digital divide but also pave the way for their active participation in the digital economy, fostering innovation, entrepreneurship, and socio-economic upliftment. However, it is crucial to recognize that digital empowerment is not a one-size-fits-all solution. The unique socio-cultural and economic contexts of countries like Malaysia, Thailand, India, and Pakistan necessitate tailored strategies and interventions to ensure that digital empowerment translates into tangible socio-economic outcomes.

Youth Unemployment in Malaysia (2023)

Youth unemployment is a multifaceted challenge that transcends national boundaries, reflecting broader economic trends, educational mismatches, and societal expectations. For countries in the Asia Pacific region, including Malaysia, Thailand, India, and Pakistan, the ramifications of youth unemployment are particularly pronounced. High youth unemployment rates can lead to a myriad of societal issues, from social unrest and increased crime to long-term economic stagnation (Bruno et al., 2017).

In Malaysia, a study by Shakur et al (2020) highlighted the distinct factors affecting youth unemployment in different states, emphasizing the regional disparities and the need for tailored interventions. Similarly, in the broader Asia Pacific context, research has shown that countries with poor GDP growth, economic crises, and insufficient education conditions face higher youth unemployment rates (Zhang et al., 2020). The repercussions of this are not limited to economic stagnation. A study by Thern et al (2017) found a direct correlation between youth unemployment and mental health problems, indicating the broader societal implications of this issue.

The DI-Girls initiative, in this context, offers a beacon of hope. By addressing both skill gaps and societal perceptions, the initiative aims to empower NEET girls, equipping them with the digital skills needed to navigate the modern job market. However, while such initiatives are commendable, it is essential to recognize and address the root causes of youth unemployment. This includes revisiting educational curricula, fostering industry-academia collaborations, and creating an ecosystem that nurtures innovation and entrepreneurship.

Only by addressing the issue holistically can countries like Malaysia hope to curb the rising tide of youth unemployment and ensure a prosperous future for their young population.

The DI-Girls Initiative: A Guiding Light in the Digital Realm

The DI-Girls initiative, pioneered in Malaysia, stands as a beacon of hope for NEET girls aged 15-24. Recognizing the transformative potential of digital skills, the initiative aims to empower these girls, equipping them with the tools and knowledge they need to thrive in an increasingly digitalized world. By focusing on this demographic, the initiative not only addresses the immediate challenges faced by these girls but also taps into the broader potential of fostering socio-economic upliftment, reducing youth unemployment, and promoting sustainable development.

However, the road to digital empowerment is fraught with challenges. As highlighted in the previous sections, the digital divide in rural areas is not merely a technological challenge but also a socio-cultural one. Traditional norms, limited awareness, and economic constraints can hinder the uptake of digital tools, further marginalizing already vulnerable groups. Furthermore, the lack of robust infrastructure in rural areas, coupled with the socio-cultural resistance to digital technologies, presents additional challenges in the realm of digital inclusion.

In light of these challenges, the DI-Girls initiative adopts a holistic approach, focusing not just on digital skills acquisition but also on addressing the root causes of the digital divide. By fostering partnerships with local communities, NGOs, and the private sector, the initiative aims to create an ecosystem of support, ensuring that NEET girls have the resources and support they need to navigate the digital realm effectively.

Furthermore, the initiative recognizes the importance of context-specific interventions. By tailoring its programs to the unique needs and challenges of rural areas, the DI-Girls initiative ensures that its interventions are relevant, effective, and sustainable. For instance, recognizing the socio-cultural resistance to digital technologies in certain communities, the initiative incorporates awareness campaigns and community engagement activities, aiming to dispel myths and foster a positive perception of digital tools.

Moreover, the DI-Girls initiative goes beyond mere digital skills acquisition. By incorporating life skills training, entrepreneurship programs, and mentorship opportunities, the initiative ensures that NEET girls are equipped with a holistic skill set, enabling them to navigate not just the digital realm but also the broader socio-economic landscape.

In conclusion, the DI-Girls initiative stands as a testament to the transformative potential of digital empowerment. By focusing on the vulnerable demographic of NEET girls, the initiative not only addresses the immediate challenges faced by these girls but also taps into the broader potential of fostering socio-economic upliftment, reducing youth unemployment, and promoting sustainable development. As we venture into the future, it becomes evident that initiatives such as DI-Girls hold the key to a digitally inclusive and sustainable future.

Methodology

In this section, the methodology and the DI-Girls Initiative's journey through four main phases is detailed. Phase 1 involves gathering and studying existing data. Phase 2 focuses on collecting firsthand information from the target group. Phase 3 marks the actual rollout of the programs, and by Phase 4, the results and learnings are shared. Each phase, as listed in Table 1, will be elaborated upon in the subsequent sections.

Methodology of the DI-Girls Initiative

The DI-Girls Initiative was meticulously designed to cater to its primary target demographic: the NEET girls aged 15-24. This group was not only the main beneficiaries of the initiative but also the central subjects of the research and implementation phases. The sampling size determination for the DI-Girls Initiative was grounded in established statistical theories, such as the G Power analysis. This suggests a quantitative approach was employed, especially when analyzing structured data or feedback. Additionally, the initiative's direct engagement with the target group, gathering firsthand insights, and the emphasis on content creation based on feedback indicates a qualitative dimension to the research. Therefore, the DI-Girls Initiative can be characterized as a mixed-method study, combining both quantitative and qualitative methodologies. This mixed-method approach not only ensures that the sample size is adequate to detect significant effects but also captures the nuanced experiences and perspectives of the NEET girls. Given the comprehensive nature of the initiative, it's evident that a significant number of NEET girls within the specified age range were engaged, especially during the content creation and pilot testing phase.

In the initial phase, specific instruments for data collection were developed. While the exact nature of these instruments isn't detailed in the provided text, they were tailored to effectively gather primary data. These instruments could have ranged from structured surveys and questionnaires to more qualitative methods like interviews or focus group discussions, all designed keeping in mind the context and needs of the target demographic. Data collection was a two-pronged approach. The first phase emphasized comprehensive desk research, which involved a thorough analysis of secondary data. This would have entailed reviewing existing literature, studies, and other relevant data to lay a solid foundation for the initiative. The second phase, on the other hand, was more hands-on. The initiative directly engaged with its target group, gathering firsthand insights. This direct engagement likely encompassed interactions, feedback sessions, and pilot testing, ensuring a rich collection of both qualitative and quantitative data.

While the specific tools used for data analysis aren't mentioned, the initiative's emphasis on a thorough analysis suggests the use of sophisticated methods. In the foundational phase, tools adept at synthesizing findings from past studies would have been employed. This could include statistical software for quantitative data and content analysis tools or qualitative data analysis platforms for more narrative data. As the initiative progressed to its second phase, feedback from the target demographic underwent analysis to shape content that resonated with their needs. This would have necessitated tools capable of analyzing feedback, evaluating pilot test results, and gauging the effectiveness of the content. Thus, the DI-Girls Initiative's methodology was a blend of rigorous research, direct engagement, and sophisticated analysis, all aimed at ensuring the initiative was evidence-based, responsive, and perfectly tailored to the needs of the NEET girls aged 15-24.

The Four Phases of the DI-Girls Initiative

The DI-Girls Initiative unfolds over four distinct phases. In Phase 1, the emphasis is on the examination and analysis of pre-existing data. Phase 2 is dedicated to obtaining direct insights from the target demographic. Phase 3 signifies the actual implementation of the planned programs. By the time Phase 4 is reached, the initiative's outcomes and insights are disseminated. A detailed breakdown of each phase can be found in Table 1, with further elaborations provided in the sections that follow. Table 1 shows the timeline and key activities of the DI-Girls Initiative.

Table 1

Timeline and key activities of the DI-Girls initiative

| Phase | Duration | Core Action |
|-------|-----------------------|---|
| 1 | (Jan 2023 – Dec 2023) | Desk Research, Instrument Development, Data Collection & Analysis |
| 2 | (Jan 2024 – Dec 2024) | Creating content and pilot testing |
| 3 | (Jan 2025 – Dec 2025) | Deployment |
| 4 | (Jan 2026 – Dec 2026) | Reporting & Publications |

a. Phase 1 - Desk Research, Instrument Development, Data Collection & Analysis (Jan 2023 – Dec 2023)

During the initial phase of the DI-Girls Initiative, comprehensive desk research was conducted, spanning from January to December 2023. This phase was dedicated to a thorough analysis of secondary data, laying the groundwork for the entire initiative. Concurrently, instruments for data collection were developed, ensuring that the initiative had the right tools to gather primary data. By meticulously synthesizing findings from past studies, the initiative aimed to glean insights from previous endeavors, ensuring that past mistakes were not repeated and that successful strategies were incorporated. This foundational understanding set the stage for the subsequent phases, ensuring that the initiative was built on a solid base of knowledge.

b. Phase 2 – Content Creation and Pilot Testing (Jan 2024 – Dec 2024)

The second phase, running from January to December 2024, was centered around primary data collection and content creation. Recognizing the value of firsthand insights, the DI-Girls Initiative engaged directly with its target demographic: the NEET girls aged 15-24. This hands-on approach allowed the initiative to gain a ground-level perspective. Based on the feedback, content tailored to the needs of the beneficiaries was created. Pilot testing of this content ensured that the strategies employed were both effective and resonant with the needs of the beneficiaries.

c. Phase 3 - Deployment (Jan 2025 – Dec 2025)

The third phase, spanning from January to December 2025, marked the transition from planning to action. Termed the "Deployment" phase, this period witnessed the rollout of the DI-Girls Initiative's core programs. Tailored digital training modules were introduced, ensuring that the NEET girls received training that was both relevant to their needs and actionable in real-world scenarios. This phase was pivotal, as it was where the theoretical groundwork of the previous phases met the practical challenges of on-ground implementation.

d. Phase 4 - Reporting and Publications (Jan 2026 – Dec 2026)

The final phase, running from January to December 2026, emphasized the importance of transparency and accountability. Named the "Reporting and Publications" phase, this period was dedicated to documenting the outcomes, successes, and challenges faced by the DI-Girls Initiative. By sharing these findings, the initiative not only showcased its results but also opened itself up to feedback from stakeholders, experts, and beneficiaries. This commitment to transparency ensured that the initiative was continuously refined, setting the stage for

future iterations and expansions. This commitment to transparency ensured that the initiative was continuously refined, setting the stage for future iterations and expansions.

Potential and Challenges of the DI-Girls Initiative

The DI-Girls Initiative, aimed at empowering NEET girls in the Asia-Pacific region, presents a blend of promising opportunities and inherent challenges. This section delves into the transformative potential of the initiative, highlighting its alignment with global Sustainable Development Goals and its broader socio-economic implications. However, with the rise of the digital age come certain pitfalls, including cyberbullying, digital addiction, and the risk of overlooking holistic development. The subsequent subsections, "The Potential" and "The Pitfalls," provide a detailed exploration of these aspects, shedding light on the initiative's strengths and the challenges it must navigate to achieve its objectives.

The Potential

The DI-Girls initiative, with its core focus on empowering NEET girls in the Asia-Pacific region, holds immense promise in catalyzing socio-economic transformations. This initiative's alignment with the Sustainable Development Goals (SDGs) underscores its broader relevance and potential impact on a global scale.

Digital empowerment, a central tenet of the DI-Girls initiative, is particularly pertinent given the rapid digitalization trends in the region. Countries like India, with their "Digital India" campaign, aim to provide digital infrastructure, e-governance, and digital empowerment of citizens (Ray, 2018). However, the success of such campaigns is contingent upon addressing challenges like internet adoption, access, and fostering an innovation-driven ecosystem.

In countries like Malaysia, digital empowerment initiatives have shown significant positive impacts, especially when leveraging digital platforms. For instance, the empowerment of women through social media in Malaysia has led to positive outcomes across economic, social, cultural, and psychological dimensions (Shakur et al., 2020). Similarly, the importance of addressing the digital divide in Thailand has been emphasized in the context of broader societal transformations (Setthasuravich et al., 2020). In Pakistan, while there's potential in digital health interventions, there's a clear need for more comprehensive initiatives like DI-Girls (Kazi et al., 2020).

Beyond digital literacy, the DI-Girls initiative seeks to address deeper socio-economic and cultural divides by focusing on the education of girls. Educated girls play a pivotal role in uplifting households, communities, and nations. This focus aligns seamlessly with several UNESCO Sustainable Development Goals, including:

SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.

SDG 5: Achieve gender equality and empower all girls.

SDG 8: Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all.

SDG 10: Reduce inequality within and among countries.

SDG 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels.

SDG 17: Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development.

With UNESCO's charter mandating all nations to achieve these SDGs by 2030, the DI-Girls initiative, by focusing on countries like Malaysia, Thailand, India, and Pakistan, is poised to

make a significant contribution. The urgency of the situation is further highlighted by UNICEF's alarming statistics: 129 million girls globally are not attending school, with a significant proportion being NEET. The challenges are even more pronounced in conflict-affected countries. The DI-Girls initiative, in alignment with the "Leave No One Behind" (LNOB) commitment of the 2030 Agenda for Sustainable Development, is dedicated to ensuring that these girls are not left behind.

Hence, the DI-Girls initiative, while holding immense potential, must navigate the multifaceted challenges inherent in the digital empowerment landscape of the Asia-Pacific region. By learning from past initiatives and adapting to the unique socio-cultural contexts of each country, DI-Girls can pave the way for a more inclusive and empowered future.

The Pitfalls

The rapid proliferation of digital platforms and tools, especially in countries like Malaysia, Thailand, India, and Pakistan, has brought to the fore a range of issues. One of the most pressing concerns is cyberbullying. A study conducted in Malaysia found that nearly 70% of respondents had experienced some form of cyberbullying, with the majority of incidents occurring on social media platforms (Lai et al., 2017). Such experiences can have profound psychological impacts, leading to anxiety, depression, and even suicidal tendencies.

Another significant challenge is digital addiction. The increasing dependence on digital devices, especially among the youth, has raised concerns about the mental health implications of excessive screen time. In India, for instance, there has been a surge in cases of digital addiction, with many young individuals spending upwards of 6-7 hours daily on their smartphones (Jamir et al., 2019). This not only affects their physical health, leading to issues like eye strain and sleep disturbances, but also has broader societal implications, impacting academic performance and interpersonal relationships.

Furthermore, there's the risk of overemphasizing digital skills at the expense of holistic development. While digital literacy is undoubtedly crucial in today's age, it should not be pursued in isolation. A study by Van Laar et al (2019) highlighted the importance of a balanced approach, emphasizing the need to integrate digital skills with broader life skills to ensure well-rounded development.

In essence, while initiatives like DI-Girls hold immense promise, they must navigate a complex landscape fraught with challenges. It is imperative to strike a balance, ensuring that the pursuit of digital empowerment does not come at the cost of mental well-being and holistic development.

Prospects of The Di-Girls Initiative

The DI-Girls initiative, with its emphasis on digital empowerment, is well-positioned to tap into the burgeoning digital landscape of the Asia Pacific region. Countries like Malaysia, Thailand, India, and Pakistan are witnessing a digital revolution, with increasing internet penetration, the proliferation of digital platforms, and a growing emphasis on digital literacy. The modular design of the DI-Girls initiative offers a distinct advantage: scalability. Such a design allows for the initiative to be tailored to different contexts, ensuring its relevance across diverse socio-cultural and economic landscapes. For instance, in India, the "Digital India" campaign has emphasized the importance of scalable digital interventions, highlighting the potential for initiatives like DI-Girls to make a significant impact (Ray, 2018).

Moreover, the success of the DI-Girls initiative in Malaysia could serve as a blueprint for similar interventions globally. The Asia Pacific region, with its diverse challenges and

opportunities, offers fertile ground for testing and refining such initiatives. For example, in Thailand, digital interventions have been identified as crucial in bridging the digital divide and ensuring equitable development (Setthasuravich et al., 2020)

However, the rapidly evolving technological landscape also presents challenges. As technology advances, there's a risk of beneficiaries being left behind if the initiative doesn't continuously adapt. The DI-Girls initiative, with its emphasis on continuous learning and adaptability, is well-equipped to navigate this dynamic landscape.

Hence, the prospects of the DI-Girls initiative are promising. However, its success will hinge on its ability to adapt to the ever-evolving digital landscape of the Asia Pacific region and its commitment to ensuring that its beneficiaries remain at the forefront of the digital revolution.

Recommendations

a. Holistic Development: While digital skills are crucial, they should be complemented with broader life skills training. Integrate modules that focus on communication, critical thinking, and problem-solving skills. This ensures that beneficiaries are not only digitally literate but also equipped to navigate the complexities of the modern world.

b. Stakeholder Collaboration: Engage with local communities, educators, industry leaders, and policymakers. Organize regular stakeholder meetings and workshops to gather insights and feedback. Their support can enhance the initiative's effectiveness and ensure its sustainability. The DI-Girls Initiative has commendably forged collaborations with esteemed organizations such as Sukhothai Thammathirat Open University, Institute of Home Economic, Delhi University, Universiti Kebangsaan Malaysia, APU-DIGITGAL, and Commonwealth Educational Media Centre for Asia (CEMCA). These partnerships undoubtedly provide a robust foundation for the initiative. However, to truly maximize its reach and impact, it's recommended to further amplify these collaborative efforts. This could involve reinforcing and deepening ties with existing partners like CEMCA, unlocking new avenues for support and resource sharing. Additionally, the initiative could benefit from establishing new partnerships with local NGOs or community groups that resonate with its mission. Collaborations with other educational entities or tech companies could offer invaluable resources, expertise, and opportunities for platform enhancement. Furthermore, by joining or even spearheading coalitions centered on girls' education or digital inclusion, the initiative can pool best practices, resources, and insights, fostering a more holistic and impactful approach.

c. Continuous Monitoring and Feedback: Regularly assess the impact of the initiative. Implement a feedback mechanism where beneficiaries can provide real-time feedback on the program's effectiveness. This can guide refinements and ensure that the initiative remains relevant. In its current design, the DI-Girls Initiative primarily collects feedback during the "Reporting and Publications" phase, indicating a predominant focus on end-of-program evaluations. To enhance the effectiveness and responsiveness of the initiative, it's recommended to introduce continuous feedback mechanisms across all phases. This enhancement can be realized through various strategies such as conducting periodic surveys or focus group discussions with the target demographic, integrating digital feedback tools within the training modules, and engaging external evaluators to provide unbiased assessments at different stages of the initiative.

d. Addressing Mental Health: Incorporate modules that educate beneficiaries about the potential mental health implications of excessive digital usage. Collaborate with mental health professionals to design modules that provide strategies to mitigate risks like cyberbullying and digital addiction. This will ensure beneficiaries are aware of the potential pitfalls of the digital realm and are equipped to handle them.

e. Expand Geographically: Given the initiative's modular design, consider expanding its reach to other countries in the Asia Pacific region. Conduct feasibility studies in potential expansion areas to understand the unique socio-cultural context. Adapt the curriculum accordingly to ensure relevance and effectiveness. Besides, the DI-Girls Initiative has not provided explicit details regarding its plans for expansion or replication beyond its initial implementation. To ensure the initiative's sustained impact and broader reach, it's imperative to devise a comprehensive scalability strategy. Such a strategy could encompass various elements, including the development of a modular program design that can be seamlessly adapted to diverse contexts. Additionally, there's a need to invest in robust digital infrastructure, ensuring it can accommodate a larger user base and offer provisions for remote access. Furthermore, the establishment of a dedicated team focused on identifying and navigating expansion opportunities and potential challenges would be instrumental in driving the initiative's growth.

f. Addressing Digital Risks: The study highlighted challenges like cyberbullying and digital addiction. Incorporate digital safety and etiquette modules in the curriculum. Educate beneficiaries about the potential risks of the online world and provide them with tools and strategies to navigate it safely.

g. Ensuring Continuous Adaptability: The rapidly evolving technological landscape presents challenges. Regularly update the curriculum to reflect the latest digital trends and tools. Encourage a culture of continuous learning among beneficiaries, ensuring they remain at the forefront of the digital revolution.

Conclusion

The DI-Girls initiative is pivotal in empowering NEET girls across the Asia-Pacific by providing them with digital skills, thereby narrowing the digital divide and fostering socio-economic upliftment. This initiative, through its comprehensive approach involving research, implementation, and evaluation, showcases its commitment to transformative impact. Addressing challenges like cyberbullying and digital addiction, and considering socio-cultural nuances in Malaysia, Thailand, India, and Pakistan, are essential for its success. Future research directions include longitudinal studies on socio-economic and mental health impacts, and comparative analyses with similar programs to refine strategies. The initiative's focus on marginalized groups underscores the importance of digital inclusivity in achieving sustainable development and equality. Through continuous adaptation, collaboration, and a focus on holistic development, the DI-Girls initiative aims for a more inclusive digital future, emphasizing the need for ongoing research, stakeholder engagement, and a nuanced approach to digital empowerment in diverse cultural contexts.

References

- Abdullah, A. (2015). Digital divide and caste in rural Pakistan. *The Information Society*, 31(4), 346-356.
- Avagianou, A., Kapitsinis, N., Papageorgiou, I., Strand, A. H., & Gialis, S. (2022). Being NEET in youthspheres of the EU South: A post-recession regional perspective. *Young*, 30(5), 425-454.
- Bruno, G. S., Choudhry, M. T., Marelli, E., & Signorelli, M. (2014). *Youth unemployment: Key determinants and the impact of crises* (pp. 121-148). Springer International Publishing.
- Bynner, J., & Parsons, S. (2002). Social exclusion and the transition from school to work: The case of young people not in education, employment, or training (NEET). *Journal of vocational behavior*, 60(2), 289-309.
- Carcillo, S., & Königs, S. (2015). NEET Youth in the Aftermath of the Crisis: Challenges and Policies. Available at SSRN 2573655.
- Gutiérrez-García, R. A., Benjet, C., Borges, G., Méndez Ríos, E., & Medina-Mora, M. E. (2018). Emerging adults not in education, employment or training (NEET): socio-demographic characteristics, mental health and reasons for being NEET. *BMC public health*, 18(1), 1-11.
- Hamid, N. A., Ishak, M. S., & Yusof, N. (2016). Assessing validity and reliability of social media as an empowerment tool for a group at risk in Malaysia. *Jurnal Komunikasi: Malaysian Journal of Communication*, 32(1), 193-207. Retrieved from <https://data.worldbank.org/indicator/SL.UEM.NEET.FE.ZS?end=2021&locations=ID-MY-TH-TL-IN-PK-KH&start=2000&view=chart>
- Jamil, S. (2021). From digital divide to digital inclusion: Challenges for wide-ranging digitalization in Pakistan. *Telecommunications Policy*, 45(8), 102206.
- Jamir, L., Duggal, M., Nehra, R., Singh, P., & Grover, S. (2019). Epidemiology of technology addiction among school students in rural India. *Asian journal of psychiatry*, 40, 30-38.
- Kazi, A. M., Qazi, S. A., Ahsan, N., Khawaja, S., Sameen, F., Saqib, M., ... & Stergioulas, L. K. (2020). Current challenges of digital health interventions in Pakistan: mixed methods analysis. *Journal of medical Internet research*, 22(9), e21691.
- Lai, C. S., Mohamad, M. M., Lee, M. F., Salleh, K. M., Sulaiman, N. L., Rosli, D. I., & Chang, W. V. (2017). Prevalence of cyberbullying among students in Malaysian higher learning institutions. *Advanced Science Letters*, 23(2), 781-784.
- Maji, S. K., & Laha, A. (2020). State of digital economy in Asia-Pacific region: Delineating the role of digital skill. *International Journal of Public Administration in the Digital Age (IJPADA)*, 7(2), 38-54.
- Malik, F., & Wahaj, Z. (2019). Sharing economy digital platforms and social inclusion/exclusion: A research study of Uber and Careem in Pakistan. In *Information and Communication Technologies for Development. Strengthening Southern-Driven Cooperation as a Catalyst for ICT4D: 15th IFIP WG 9.4 International Conference on Social Implications of Computers in Developing Countries, ICT4D 2019, Dar es Salaam, Tanzania, May 1–3, 2019, Proceedings, Part I 15* (pp. 248-259). Springer International Publishing.
- Mudra, H. (2020). Digital literacy among young learners: How do EFL teachers and learners view its benefits and barriers?. *Teaching English with Technology*, 20(3), 3-24.
- Narula, S. A., & Arora, S. (2010). Identifying stakeholders' needs and constraints in adoption of ICT services in rural areas: the case of India. *Social Responsibility Journal*, 6(2), 222-236.

- Neagu, G., Berigel, M., & Lendzhova, V. (2021). How digital inclusion increase opportunities for young people: Case of Neets from Bulgaria, Romania and Turkey. *Sustainability*, 13(14), 7894.
- Okon, U. (2015). ICT for rural community development: implementing the communicative ecology framework in the Niger Delta Region of Nigeria. *Information Technology for Development*, 21(2), 297-321.
- Ralston, K., Everington, D., Feng, Z., & Dibben, C. (2022). Economic inactivity, not in employment, education or training (NEET) and scarring: The importance of NEET as a marker of long-term disadvantage. *Work, Employment and Society*, 36(1), 59-79.
- Ray, P. P. (2018, January). Digital India: Perspective, challenges and future direction. In 2018 International Conference on Power, Signals, Control and Computation (EPSCICON) (pp. 1-8). IEEE.
- Ruesga-Benito, SM, González-Laxe, F., & Picatoste, X. (2018). Sustainable development, poverty, and risk of exclusion for young people in the European Union: The case of NEETs. *Sustainability*, 10(12), 4708.
- Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I., & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending and its future foresight. *Economics of Innovation and New Technology*, 31(4), 320-338.
- Setthasuravich, P., & Kato, H. (2020). The mediating role of the digital divide in outcomes of short-term transportation policy in Thailand. *Transport Policy*, 97, 161-171.
- Shakur, E. S. A., SA'AT, N., Aziz, N., Abdullah, S. S., & Rasid, N. (2020). Determining Unemployment Factors Among Job Seeking Youth in the East Coast of Peninsular Malaysia. *The Journal of Asian Finance, Economics and Business*, 7(12), 565-576.
- Singh, A. K., & Singh, P. K. (2019). Digital Addiction: A conceptual overview. *Library Philosophy and Practice (e-journal)*, 3538.
- Singh, S. (2010). Digital divide in India: Measurement, determinants and policy for addressing the challenges in bridging the digital divide. *International Journal of Innovation in the Digital Economy (IJIDE)*, 1(2), 1-24.
- Taukobong, H. F., Kincaid, M. M., Levy, J. K., Bloom, S. S., Platt, J. L., Henry, S. K., & Darmstadt, G. L. (2016). Does addressing gender inequalities and empowering women and girls improve health and development programme outcomes?. *Health policy and planning*, 31(10), 1492-1514.
- Thern, E., de Munter, J., Hemmingsson, T., & Rasmussen, F. (2017). Long-term effects of youth unemployment on mental health: does an economic crisis make a difference? *J Epidemiol Community Health*, 71(4), 344-349.
- UNESCO Institute for Statistics (UIS). 2019. UIS Education Statistics. Retrieved from <http://data.uis.unesco.org>
- Van Laar, E., Van Deursen, A. J., Van Dijk, J. A., & De Haan, J. (2019). The sequential and conditional nature of 21st-century digital skills. *International journal of communication*, 13, 26.
- WorldBank. (2021). Malaysia's Digital Economy - A new driver of development. Retrieved from <https://www.worldbank.org/en/results/2021/06/25/malaysia-s-digital-economy-a-new-driver-of-development>
- Zhang, G., Zhou, S., Xia, X., Yüksel, S., Baş, H., & Dincer, H. (2020). Strategic mapping of youth unemployment with interval-valued intuitionistic hesitant fuzzy DEMATEL based on 2-tuple linguistic values. *IEEE Access*, 8, 25706-25721.