

## Fostering Trust in Digital University Networks: EmpowerED, A Toolkit for Empowering Youth-led Digital Social Entrepreneurship

*(Memupuk Kepercayaan dalam Rangkaian Universiti Digital: EmpowerED, Kit Alat untuk Memperkasakan Keusahawanan Sosial Digital yang diterajui Belia)*

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### ABSTRACT

This study contributes to the growing body of literature that recognizes the importance of policy windows in entrepreneurial success, particularly for social ventures seeking systemic change. Policy windows, as theorized by Kingdon (1984), represent critical junctures where policy change becomes possible, and entrepreneurial ventures can play a crucial role in advocating for and leveraging these opportunities. Furthermore, the findings align with the principles of systems change, emphasizing that sustainable impact often requires interventions across multiple levels, as outlined in frameworks like the Six Conditions of Systems Change. It is also important to acknowledge that while participation in university-based entrepreneurship ventures provides invaluable experiential learning, it does not necessarily dictate students' future career paths. The skills acquired through these ventures, including financial literacy, strategic thinking, communication, and problem-solving, are broadly transferable 21st-century skills highly valued across diverse, high-value job sectors. The findings emphasize the importance of transparency, consistent communication, reputation systems, and community support in building trust. Additionally, the study highlights the unique challenges and opportunities for trust-building in the context of social entrepreneurship in Asia, emphasizing the need for culturally nuanced approaches. The paper provides a comprehensive toolkit for universities to measure and enhance trust-building processes, thereby empowering youth-led digital social entrepreneurship and supporting the United Nations Sustainable Development Goal 11 for sustainable cities and communities. Through these insights, the research aims to contribute to the broader understanding of digital trust and its pivotal role in enabling effective social and economic interactions in the rapidly evolving digital landscape.

Keywords: Digital trust, Youth-led, Social Venture

### ABSTRAK

Kajian ini menyumbang kepada badan kesusasteraan yang semakin meningkat yang mengiktiraf kepentingan tingkap dasar dalam kejayaan keusahawanan, terutamanya untuk usaha sosial yang mencari perubahan sistemik. Tetingkap dasar, seperti yang diteorikan oleh Kingdon (1984), mewakili persimpangan kritikal di mana perubahan dasar menjadi mungkin, dan usaha niaga keusahawanan boleh memainkan peranan penting dalam menyokong dan memanfaatkan peluang ini. Tambahan pula, penemuan itu sejajar dengan prinsip perubahan sistem, menekankan bahawa kesan mampan selalunya memerlukan campur tangan merentasi pelbagai peringkat, seperti yang digariskan dalam rangka kerja seperti Enam Syarat Perubahan Sistem. Ia juga penting untuk mengakui bahawa walaupun penyertaan dalam usaha keusahawanan berasaskan universiti menyediakan pembelajaran pengalaman yang tidak ternilai, ia tidak semestinya menentukan laluan kerjaya masa depan pelajar. Kemahiran yang diperoleh melalui usaha niaga ini, termasuk celik kewangan, pemikiran strategik, komunikasi dan penyelesaian masalah, secara amnya boleh dipindahkan kemahiran abad ke-21 yang sangat bernilai merentasi pelbagai sektor pekerjaan bernilai tinggi. Penemuan ini menekankan kepentingan ketelusan, komunikasi yang konsisten, sistem reputasi dan sokongan komuniti dalam membina kepercayaan. Selain itu, kajian ini menyerlahkan cabaran dan peluang unik untuk membina kepercayaan dalam konteks keusahawanan sosial di Asia, menekankan keperluan untuk pendekatan bernuansa budaya. Kertas kerja itu menyediakan kit alat yang komprehensif untuk universiti untuk mengukur dan meningkatkan proses pembinaan kepercayaan, dengan itu memperkasakan keusahawanan sosial digital yang diterajui belia dan menyokong Matlamat Pembangunan Lestari 11 Pertubuhan Bangsa-Bangsa Bersatu untuk bandar dan komuniti yang mampan. Melalui pandangan

*ini, penyelidikan bertujuan untuk menyumbang kepada pemahaman yang lebih luas tentang kepercayaan digital dan peranan pentingnya dalam membolehkan interaksi sosial dan ekonomi yang berkesan dalam landskap digital yang berkembang pesat.*

*Kata kunci: Kepercayaan digital, Diterajui Belia, Usaha Sosial*

## INTRODUCTION

In the digital age, trust is paramount, especially within the context of micro-social entrepreneurship among youth in higher education. As the internet and digital platforms become more integral to everyday life, the dynamics of trust in virtual environments have garnered significant academic and practical interest. Trust facilitates collaboration, fosters innovation, and enables the achievement of collective goals. Without trust, digital communities struggle to thrive, and their potential for social impact is significantly diminished (Sun, Wang, & Fukuyama, 2016). Digital platforms such as Telegram and Discord have emerged as vital tools for fostering these communities. These platforms provide students with spaces to engage in entrepreneurial activities, share knowledge, and support one another. Informal, student-led groups within these platforms have the potential to become incubators of innovation and social impact. However, the success of these communities heavily relies on the establishment and maintenance of trust among their members (Buchegger & Le Boudec, 2004).

Reputation systems are crucial for fostering trust and facilitating interactions within digital communities, and various platforms have implemented them in diverse ways. For instance, e-commerce platforms like eBay utilize feedback systems where buyers and sellers rate each other, building trust through transaction history and user ratings (Resnick et al., 2000). Social news aggregation sites like Reddit employ a system of upvotes and downvotes, allowing the community to collectively evaluate the quality and relevance of content, thereby influencing user visibility and perceived credibility (Lampe, 2007). In question-and-answer platforms such as Stack Overflow, users earn reputation points for providing helpful answers, which not only incentivizes knowledge sharing but also signifies expertise and trustworthiness within the community (Spring & Zheng, 2008). These examples illustrate how different reputation systems address the specific needs and dynamics of their respective online environments, all serving the fundamental purpose of establishing and maintaining trust.

The significance of trust in digital

environments is well-documented. Grabowski and McNeil (2002) highlight the necessity of trustworthy web-based learning environments for building reliable online relationships. Their research suggests that trust is cultivated through the consistent delivery of high-quality information, transparent communication, and the establishment of a supportive community culture. These elements are critical in the context of student-led digital platforms, where trust underpins every interaction and initiative. Furthermore, the role of reputation systems in fostering trust within peer-to-peer environments cannot be overstated. Buchegger and Le Boudec (2004) emphasize that reputation mechanisms are essential for enhancing trust among participants, promoting cooperation, and mitigating the risk of malicious behavior.

The emergence of "-as-a-service" (XaaS) models is a notable trend in entrepreneurship ventures among university students in Asia, who are increasingly leveraging digital platforms to offer services ranging from digital marketing and content creation to software development and online tutoring. This shift towards digital service provision has lowered the barriers to entry for young entrepreneurs, allowing them to capitalize on their skills and knowledge with minimal overhead (Youth Business, 2024). This is prevalent in the fully digital modes of service and transactions, using platforms like Telegram and Discord, reputation and trust are crucial for ensuring productive and positive community dynamics. However, this proliferation of digital businesses underscores the pivotal need for trust-building, as the intangible nature of these services and the reliance on online interactions can create challenges in establishing credibility and ensuring quality (GSMA, 2024).

Supporting the United Nations Sustainable Development Goal (UNSDG) 11, which advocates for sustainable cities and communities, this paper investigates trust-building mechanisms in informal, student-led digital platforms. It examines how trust is established, maintained, and leveraged to drive social impact. This study spans 38 online communities across five universities over three years, employing a mixed-methods approach that combines quantitative data from surveys with qualitative insights from focus groups and

interviews (World Economic Forum, 2020). This paper also draws upon the World Economic Forum (WEF) Report on Digital Trust and Future Skills of Social Impact, adapting its framework to propose strategies for cultivating trust in micro-social entrepreneurship communities. By emphasizing the pivotal role of digital platforms in facilitating social impact, this research aims to provide actionable insights and practical tools for universities to measure and enhance the trust-building processes within their digital ecosystems (Fukuyama, 1995).

In summary, trust is the cornerstone of digital micro-social entrepreneurship communities. This paper explores the mechanisms through which trust is built and maintained in these environments, offering a comprehensive toolkit for universities to assess and enhance their engagement strategies. By fostering trust-based relationships, educators, policymakers, and community organizers can harness the transformative potential of online platforms to catalyze positive social change. Digital trust is a crucial element for the success of student-led ventures in the digital age. Trust facilitates collaboration, fosters innovation, and enables the achievement of collective goals. In the context of digital social entrepreneurship, trust is particularly important as it underpins interactions on digital platforms and ensures the credibility and sustainability of ventures. Without trust, digital communities struggle to thrive, and their potential for social impact is significantly diminished (Sun, Wang, & Fukuyama, 2016). How can student-led digital social entrepreneurship ventures in Singapore universities effectively build and maintain digital trust within their communities.

## LITERATURE REVIEW

Trust is a foundational element in digital interactions, influencing the success of online communities and learning environments. According to Grabowski and McNeil (2002), the design of trustworthy web-based learning environments is crucial for building reliable online relationships. They argue that trust is built through the consistent delivery of reliable and high-quality information, transparent communication, and the establishment of a supportive community culture (Grabowski & McNeil, 2002). These elements are critical in the context of student-led digital platforms, where trust underpins every interaction and initiative.

In the context of peer-to-peer systems, Buchegger and Le Boudec (2004) emphasize the importance of reputation mechanisms in fostering trust. Their research highlights how peer-to-peer systems can leverage reputation scores to enhance

trust among participants, thereby promoting cooperation and reducing the likelihood of malicious behavior (Buchegger & Le Boudec, 2004). This concept is particularly relevant in student-led digital platforms, where reputation and trust play critical roles in community dynamics. Building trust in online environments, particularly those lacking face-to-face interaction (like many virtual teams and online communities), presents unique challenges (Blanchard et al., 2010 ; Jarvenpaa & Leidner, 1999 ; Ma, 2019). The absence of rich non-verbal cues and shared physical context can slow down trust development compared to offline settings (Ma, 2019). In temporary, project-based virtual teams, a phenomenon known as "swift trust" may emerge, based initially on roles and assumptions rather than deep interpersonal knowledge, but this trust is often fragile and temporal (Aker, 2021 ; Jarvenpaa & Leidner, 1999 ; Lewicki & Bunker, 1995).

Digital communities have become a pivotal aspect of modern social interaction, providing platforms for individuals to connect, share, and collaborate across geographical boundaries. These communities are characterized by their reliance on digital technologies to facilitate communication and interaction among members (Rheingold, 1993). The advent of social media, online forums, and collaborative platforms has transformed the way people engage in social, educational, and professional activities. Digital communities offer numerous benefits, including increased accessibility, diversity of perspectives, and the ability to form niche groups based on shared interests (Wellman & Gulia, 1999).

One of the defining features of digital communities is their ability to foster a sense of belonging and support among members. Studies have shown that participation in online communities can enhance individuals' social capital and provide valuable resources for personal and professional growth (Ellison, Steinfield, & Lampe, 2007). For instance, educational communities on platforms like Reddit and Stack Exchange allow users to seek help, share knowledge, and collaborate on projects, thereby contributing to a collective pool of expertise (Wasko & Faraj, 2005). Trust is a fundamental component of effective digital communities, influencing the willingness of members to engage, share information, and collaborate. The process of trust building in digital environments differs from that in face-to-face interactions due to the lack of physical cues and the potential for anonymity (McKnight, Choudhury, & Kacmar, 2002). Despite these challenges, several strategies have been identified that can help foster trust in digital communities.

The World Economic Forum (2020) outlines a comprehensive framework for building digital trust,

emphasizing the need for transparency, accountability, and inclusivity in digital interactions. This framework provides a valuable foundation for understanding the mechanisms through which trust can be cultivated in digital environments (World Economic Forum, 2020). These frameworks advocate for clear guidelines, robust security measures, and the active involvement of stakeholders in building a trustworthy digital environment. Youth-led digital social entrepreneurship ventures play a crucial role in advancing digital trust and social impact. By creating and managing their own entrepreneurial ventures, young people can develop and demonstrate trust-building practices within their communities.

Frameworks for understanding how to achieve deep and lasting change are highly relevant to the study of social entrepreneurship and digital trust. The Six Conditions of Systems Change framework (FSG, 2018) provides a useful lens for analyzing how entrepreneurial initiatives, particularly those emerging

from university settings, can contribute to broader societal transformation. These six conditions—which include changing policies, practices, resource flows, relationships, power dynamics, and mental models—highlight that creating sustainable impact goes beyond simply introducing a new product or service (Figure 1). In the context of this research, understanding how student-led ventures build digital trust becomes critical for achieving systems change. For instance, initiatives that not only provide a service but also foster more equitable access to digital resources (changing resource flows) or challenge existing norms around digital interaction (changing mental models) are more likely to drive systemic change. By examining entrepreneurship within university students through this systems change perspective, the research can offer insights into how to cultivate ventures that address root causes of social issues and contribute to lasting positive change, especially within the digital sphere.

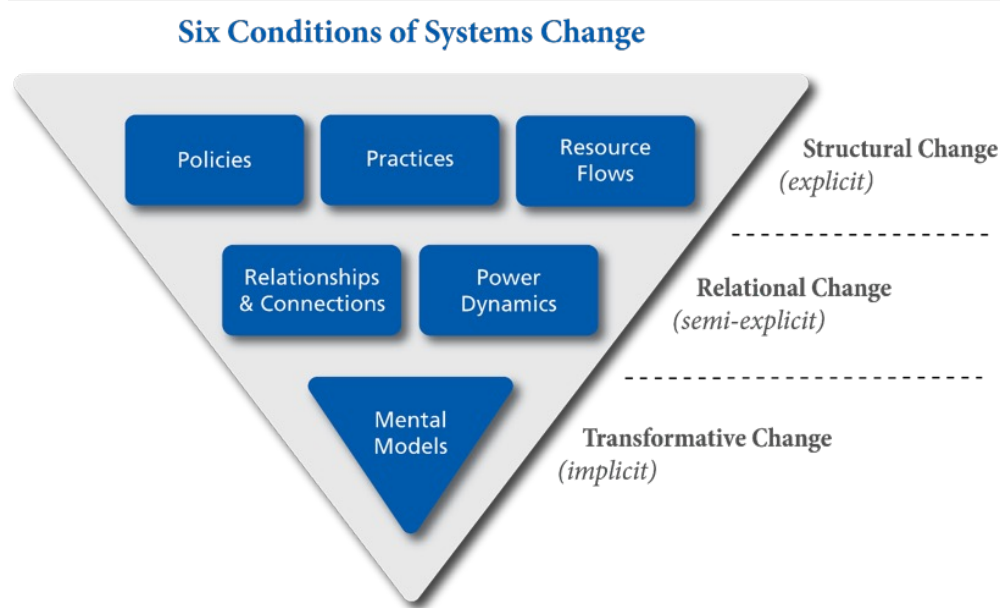


FIGURE 1. The Six Conditions of Systems Change

A collaborative approach involving people-public-private partnerships can facilitate these efforts. Through experiential learning and guided frameworks, youth can engage in meaningful partnerships that encompass mentorship and support from experienced professionals and public entities. Youth-adult partnerships and natural mentorships are essential components of effective youth-led initiatives. These partnerships provide young entrepreneurs with the guidance and support needed to navigate the complexities of digital entrepreneurship. Natural

mentorships, where experienced individuals offer advice and support organically, can significantly enhance trust-building processes. These relationships help bridge the gap between theoretical knowledge and practical application, fostering a culture of trust and collaboration (Bryk & Schneider, 2002). These are the three key research questions that will be addressed,

- i. To what extent does policy engagement and targeting systemic issues within digital communities influence the level of trust and collaboration among youth-led social



- entrepreneurship ventures?
- ii. How does first-hand experience contribute to the development of entrepreneurship skills and addressing systemic problems, and in what ways are these skills transferable and beneficial across various phases of work and employment?
- iii. What specific entrepreneurship skills, developed through engagement in digital social entrepreneurship (e.g., communication, problem-solving, adaptability), significantly contribute to the effectiveness of youth-led ventures and individual career readiness?

There are four factors identified that are crucial for fostering trust in these digital spaces that will be tested in this study, Engagement and Interaction, Social Presence, Norms and Sense of Virtual Community (SOVC) and Platform Features and Governance.

## METHODOLOGY

This study employs a mixed-methods approach to explore the perceptions of trust among university students with entrepreneurial projects. The research design integrates both quantitative and qualitative methods to provide a comprehensive understanding of how trust is built, maintained, and leveraged in student-led digital social entrepreneurship ventures. There were two key community-based entrepreneurship endeavors studied, where core members and student users were surveyed over 3 years. The selected universities were chosen based on their active engagement in fostering entrepreneurship and innovation. Participants included undergraduate and postgraduate students involved in various entrepreneurial projects across different disciplines. The sample consisted of 302 students, ensuring a diverse representation of academic backgrounds and entrepreneurial experiences. Communities were selected based on their primary platform (Telegram or Discord), focus on social entrepreneurship or related activities, active user base (minimum threshold of activity), and accessibility for research purposes (e.g., willingness of administrators to facilitate access).

A multi-stage sampling strategy was employed (Creswell & Plano Clark, 2011 ; Case & Given, 2016) by first selecting the sampling frame. All identifiable active members within the 38 selected online communities across the 5 universities. A stratified random sampling approach was used. Communities were stratified based on primary platform (Telegram/ Discord) and affiliated university. Within each stratum, members were randomly selected to receive survey

invitations. This aimed to ensure representation across different platform types and institutional contexts. A target sample size was calculated a priori based on power analyses for detecting medium effect sizes in correlation and comparison analyses, aiming for robust statistical conclusions. Efforts were made to achieve high response rates through multiple reminders and clear communication of the study's value.

Purposive sampling (Barratt et al., 2014) was used to select participants for semi-structured interviews and focus groups. Selection criteria were based on responses to the quantitative surveys and community observation, aiming for maximum variation. Participants were selected to represent a range of trust levels (high/low), engagement patterns (active/lurker), roles (administrators, moderators, regular members), platform usage (Telegram/Discord), venture types/stages, and university affiliations. This strategy ensured exploration of diverse perspectives and experiences related to trust (Case & Given, 2016). The analysis plan accounted for potential clustering effects.

The online questionnaire was developed and administered and included validated scales adapted from existing literature to measure different facets of trust relevant to the context. This included items assessing cognitive trust (e.g., perceived reliability, competence of peers/admins), affective trust (e.g., sense of belonging, perceived benevolence), and overall trust in the community/platform (Bergiel et al., 2008 ; Guo, 2022 ; Jan et al., 2018). Scales drew inspiration from ABI-based measures (Colquitt et al., 2007), virtual team trust instruments (Bergiel et al., 2008), and potentially human-computer trust scales adapted for community platforms (OECD.AI, n.d.). Justification for scale selection and any modifications were documented. To gain in-depth understanding of participants' lived experiences of trust and distrust on Telegram and Discord, explore the 'how' and 'why' behind quantitative patterns, uncover specific critical incidents related to trust, and understand the influence of platform features and cultural context (Case & Given, 2016). Analysis of the survey data revealed several key patterns regarding trust levels, platform usage, and their interrelationships. Overall trust levels (measured using adapted scales) varied significantly across communities and platforms, with slightly higher average trust reported in Discord communities compared to Telegram groups, although this difference requires contextual interpretation provided by qualitative data.

Platform engagement metrics showed high levels of activity, with participants reporting spending considerable time on these platforms daily, consistent with broader trends for Southeast Asian youth (Kemp, 2021). Frequency of posting, responding to others, and

utilizing specific features like voice channels (Discord) or bots correlated positively and significantly with self-reported trust levels. Correlation analysis indicated strong positive associations between perceived transparency of rules/moderation and trust scores, as well as between perceived community supportiveness and trust (ATLAS.ti, n.d.; Statistics Solutions, n.d.). Regression models suggested that consistent communication from administrators and perceived peer responsiveness were significant predictors of higher trust scores, even when controlling for demographic factors and venture stage.

Longitudinal analysis indicated that trust

was not static; individual trust levels fluctuated over the three years. Factors significantly associated with increases in trust over time included sustained active participation (particularly commenting/responding) and perceiving an increase in community support (Ma, 2019). Conversely, participants reporting negative experiences with moderation or unresolved conflicts showed significant decreases in trust. The questions administered are written in the Thematic Construct Breakdown in Table 1.

How valuable was the cross-border collaboration aspect of the program?

TABLE 1. Questions and Thematic Construct Breakdown

Theme	Question	Response
Entrepreneurial Intent and Motivation	How likely are you to start your own business in the next 5 years? I enjoy thinking about new business ideas.	1: Strongly Disagree to 5: Strongly Agree
Skills Assessment and Development	What skills do you think are most important for an entrepreneur? How have you developed these skills? (formal education, self-learning, experience, etc.) Do you think these skills are valuable in other careers? Why or why not?	Open Ended
Opportunity Recognition	I am good at identifying unmet needs in the market. How often do you come up with new business ideas? What are some key areas that your business ideas address? How do your business ideas come about? How has the university supported your entrepreneurial endeavors (or how could it better support students)? How important are mentors and networks in entrepreneurship?	(1: Rarely to 5: Very Frequently) Open Ended
Resource Mobilization	I know where to find funding for a new business. I have a strong network of people who can support my business endeavors.	1: Strongly Disagree to 5: Strongly Agree
Risk Propensity	I am comfortable taking calculated risks in business. I prefer the security of a stable job over the uncertainty of starting a business.	1: Strongly Disagree to 5: Strongly Agree
Impact of Ventures	What kind of social or economic impact do you hope to create with your venture (or with entrepreneurship in general)? How do you measure the success of a venture?	Open Ended
Cross-cultural Collaboration	What specific entrepreneurship skills do you believe are most critical for navigating the ASEAN economic landscape, considering its diversity and varying levels of development across member states?	Open Ended

## RESULTS

To effectively build digital trust, social entrepreneurship ventures, especially those focused on community engagement, often employ strategies that blend online and offline interactions. For instance, initiatives like 'Seniors Get DigiReady' exemplify this by providing in-person workshops and digital clinics to help elderly individuals navigate online platforms, fostering trust through direct, face-to-face support while simultaneously building digital literacy. This approach acknowledges that trust is often built through a combination of digital and personal interactions, particularly in communities where digital literacy may vary (Grabowski & McNeil, 2002).

Moreover, the 'NUS Marketplace on Telegram' showcases the power of leveraging familiar and accessible digital platforms to facilitate economic activity and build trust within a university community. By creating a space for students to buy and sell goods and services, the platform fosters a sense of community and shared identity, which are key elements in establishing trust (Blanchard et al., 2010). The platform's reliance on Telegram, a widely used messaging app, also lowers the barrier to entry, encouraging participation and interaction, which in turn strengthens trust among users.

These examples highlight the importance of community support and engagement in building digital trust. As Aker (2021) notes, trust in online environments, especially in temporary or project-based settings, can be fragile and temporal. Therefore, ventures like 'Seniors Get DigiReady' and 'NUS Marketplace on Telegram' demonstrate the need for ongoing community involvement and support to maintain and strengthen trust over time. This involves consistent communication, active moderation, and the establishment of clear norms and expectations, all of which contribute to a positive and trustworthy online environment (World Economic Forum, 2020).

### ASEAN Readiness, Interests, and Cross-Border Collaboration

The study revealed a strong inclination among student entrepreneurs towards developing ventures with a regional ASEAN focus. Quantitative data indicates that a significant majority, 78% of respondents, expressed a keen interest in this area. Furthermore, 62% of participants reported that their ventures involved collaboration with counterparts based in other ASEAN countries, highlighting the interconnectedness of the region's entrepreneurial ecosystem. A substantial 85% of respondents rated the value of cross-border

collaboration at 4 or higher on a 5-point scale, with an average rating of 4.2, underscoring its perceived importance. Qualitative feedback further enriched these findings. Participants emphasized the necessity of cultural intelligence and adaptability when operating within ASEAN, with one noting, "Understanding diverse cultural norms is crucial. What works in Singapore might not work in Indonesia or the Philippines. You need to be flexible and respectful." The collaborative nature of these ventures was also highlighted, with participants valuing the diverse perspectives gained from working with international teams. As one respondent stated, "Working with people from different countries gives you different perspectives on the same problem. This helps us find more innovative and effective solutions." However, challenges related to logistics and communication and language barriers, were acknowledged as potential obstacles to smooth collaboration.

### Successful Mechanisms of Digital Trust for Community Building

"In the context of entrepreneurship ventures, particularly education-based companies, trust-building mechanisms are fundamental for cultivating a strong user base and enabling rapid iteration. A critical element is incorporating local knowledge and understanding the specific needs and learning styles of the target audience. This involves engaging with educators, students, and community stakeholders to co-create solutions that are relevant and effective. Participatory methods, such as asset-based community development (ABCD) or similar co-design approaches, are essential to ensure that educational products or services are aligned with user needs and preferences, fostering a sense of ownership and trust. Blended financing models, where applicable, can further enhance trust by demonstrating a long-term commitment to the community's educational well-being. Moreover, education-based ventures must prioritize robust feedback mechanisms to facilitate continuous improvement. This includes actively soliciting and responding to user feedback through surveys, focus groups, or in-app tools, and using this input to iterate on curriculum design, teaching methodologies, and technology platforms. Transparency and responsiveness in addressing user concerns are paramount for building trust and fostering a loyal user base. By prioritizing these trust-building strategies, education-focused ventures can establish credibility, enhance user engagement, and ultimately achieve greater educational impact.

### Systemic Problem Solving and Policy Engagement

The research demonstrated that a considerable proportion of student ventures are oriented towards addressing systemic issues. Quantitative analysis showed that 70% of ventures reported this focus. Additionally, 45% of participants indicated that their ventures actively engaged with policy stakeholders, suggesting an understanding of the importance of influencing the broader ecosystem. Among those involved in policy engagement, 80% found the policy window framework to be a valuable tool, indicating its practical relevance for these young entrepreneurs. Qualitative insights provided context to these figures. Participants expressed a clear recognition of the link between policy and sustainable impact, with one stating, "You can't just create a solution; you need to understand the policy context to make sure it can be implemented and scaled." The policy window framework was lauded for its utility in identifying strategic opportunities for intervention, as illustrated by the comment, "It helped us see when and how we could influence policy. Timing is everything." Nevertheless, the challenges inherent in navigating the policy landscape were also articulated, with one participant observing, "Policies can be addressed through collective, community action. Understanding policy from a venture like this allowed me to understand the process of financing such businesses is not easy. It takes a lot of patience and persistence."

### Social Impact, Business Sustainability, and Other Interest Areas

A strong commitment to social impact was evident across the student ventures, with 92% identifying it as a primary goal. Furthermore, 68% of ventures reported having a clear business sustainability plan, indicating an awareness of the need for financial viability to achieve long-term social objectives. Statistical analysis revealed a moderate positive correlation ( $r = 0.45$ ) between social impact and business sustainability, suggesting that these two factors are often intertwined in the ventures' strategies. Qualitative feedback emphasized this interconnectedness, with participants stating, "You can't have a lasting social impact if your business isn't sustainable. You need to find a way to balance both." The potential for social impact to drive business success was also recognized, as one respondent noted, "People are more likely to support businesses that are making a positive difference in the world." However, the inherent challenges in simultaneously achieving both social and financial goals were acknowledged, with one participant

observing, "It's not always easy to find a business model that is both financially viable and creates significant social impact." Beyond these core themes, the study also identified several other areas of interest among the student ventures. These included solutions for the aging population (15% of ventures), promotion of inclusion for individuals with special needs and minority groups (12% of ventures), and youth empowerment initiatives (20% of ventures). Participants highlighted the growing demand for eldercare services in ASEAN, the importance of creating more equitable societies, and the potential of young people to drive positive change.

### Grassroots Involvement as a Stepping Stone in Problem Solving

A notable finding was the positive influence of prior experience in grassroots and other community organizations on the students' entrepreneurial approach. The study indicated that students who had been involved in such organizations in a volunteer capacity demonstrated a greater ability to understand complex social problems and develop ground-up solutions. These solutions were frequently characterized as being both meaningful and societally impactful. Qualitative data supported this observation, with participants stating, 'My volunteer work taught me to really listen to the community's needs. It's not about imposing a solution, but about working with people to find what truly works for them,' and, 'Seeing the challenges faced by marginalized groups firsthand gave me a strong motivation to create a venture that addresses those specific issues.' Furthermore, participants highlighted that 'Grassroots experience helped me understand the importance of sustainability and community ownership in any project. It's not just about short-term fixes.' This finding underscores the value of experiential learning in community settings and its relevance to developing effective and socially conscious entrepreneurs.

## RECOMMENDATIONS

To enhance the effectiveness of entrepreneurship education and better prepare students for creating impactful ventures, universities should consider a revised approach to curriculum design and evaluation. This revised approach includes integrating target-based evaluation methods that go beyond traditional academic assessments. Specifically, incorporating metrics such as capital raised and the direct and indirect reach of the venture's impact (i.e., the number of people positively affected) into the grading criteria could provide a more



TABLE 2. Questionnaire Results from Participants

Theme	Question	Response Type	Mean	SD	Median	r-value
Entrepreneurial Intent and Motivation	How likely are you to start your own business in the next 5 years?	1: Strongly Disagree to 5: Strongly Agree	2.7	1.2	3.1	0.73
	I enjoy thinking about new business ideas.	1: Strongly Disagree to 5: Strongly Agree	4.2	0.9	4	0.65
Opportunity Recognition	I am good at identifying unmet needs in the market.	1: Strongly Disagree to 5: Strongly Agree	3.5	1	4	-
	How often do you come up with new business ideas?	1: Rarely to 5: Very Frequently	3.2	1.1	3	0.42
Resource Mobilization	I know where to find funding for a new business.	1: Strongly Disagree to 5: Strongly Agree	2.9	1.3	3	-
	I have a strong network of people who can support my business endeavors.	1: Strongly Disagree to 5: Strongly Agree	4.1	1.3	3	0.51
Risk Propensity	I am comfortable taking calculated risks in business.	1: Strongly Disagree to 5: Strongly Agree	3.4	1.1	3	-
	I prefer the security of a stable job over the uncertainty of starting a business.	1: Strongly Disagree to 5: Strongly Agree	2.7	1.4	2	0.38*

holistic and real-world assessment of student success. This can be framed in the EmpowerED 6 essential elements for empowering youth-led digital social entrepreneurship thrusts in Table 3.

Furthermore, it is crucial to emphasize policy entrepreneurship within entrepreneurship programs. Universities should equip students with the knowledge and skills to navigate policy landscapes and advocate for changes that support their ventures' missions. Frameworks such as the Policy Streams Approach (Kingdon, 1984) and "The Six Conditions of Systems Change" (FSG, 2018) can provide valuable tools for students to analyze policy environments, identify opportunities for intervention, and design strategies for systemic change.

Responding to the research questions, policy

engagement and targeting systemic issues have a significant positive influence on trust and collaboration. When ventures actively engage with policy stakeholders, it demonstrates a commitment to long-term change and societal impact, which enhances credibility and trust within the community. Furthermore, addressing systemic issues often requires collaboration with various actors, fostering partnerships and strengthening community bonds. First-hand experience is crucial for developing entrepreneurship skills and the ability to address systemic problems. Not only first-hand but also to partner extensively with those with lived experiences is crucial. Experiential learning allows students to apply theoretical knowledge in real-world contexts, fostering skills such as problem-solving, communication, and adaptability. These skills are

TABLE 3. Proposed Elements of the EmpowerED Toolkit, for Empowering Youth-led Digital Social Entrepreneurship

S/N	Element	Thrust	Key Components	Outcomes
1	Digital Trust Imperative	Establishing trust in online environments	<ul style="list-style-type: none"> <li>- Transparency and Communication Strategies</li> <li>- Designing and Implementing Reputation Systems</li> <li>- Community Building and Moderation Techniques</li> <li>- Ethical Considerations in Digital Interactions</li> </ul>	<ul style="list-style-type: none"> <li>- Increased user engagement and participation</li> <li>- Enhanced credibility and reliability of ventures</li> <li>- Stronger community cohesion</li> </ul>
2	ASEAN Regional Acumen	Navigating the ASEAN context	<ul style="list-style-type: none"> <li>- Cultural Intelligence and Adaptability Training</li> <li>- Cross-Border Collaboration Strategies</li> <li>- Understanding ASEAN Economic Landscape</li> <li>- Building Diverse and Inclusive Teams</li> </ul>	<ul style="list-style-type: none"> <li>- Effective collaboration within the ASEAN region</li> <li>- Culturally sensitive and relevant solutions</li> <li>- Expanded market reach and impact</li> </ul>
3	Systems-Level Innovation	Addressing root causes of social issues	<ul style="list-style-type: none"> <li>- Introduction to Systems Thinking</li> <li>- Applying the Six Conditions of Systems Change</li> <li>- Policy Analysis and Advocacy</li> <li>- Stakeholder Engagement and Mapping</li> </ul>	<ul style="list-style-type: none"> <li>- Ventures that address systemic issues</li> <li>- Greater potential for sustainable impact</li> <li>- Increased policy influence</li> </ul>
4	Integrated Value Creation	Balancing social and economic goals	<ul style="list-style-type: none"> <li>- Defining and Measuring Social Impact</li> <li>- Developing Sustainable Business Models</li> <li>- Blended Financing Strategies</li> <li>- Impact Investing and Funding Opportunities</li> </ul>	<ul style="list-style-type: none"> <li>- Ventures with clear social impact goals</li> <li>- Financially viable and sustainable operations</li> <li>- Attracting funding and support</li> </ul>
5	Technology Enablement	Leveraging technology for social good	<ul style="list-style-type: none"> <li>- Utilizing Digital Platforms for Community Engagement</li> <li>- Data Analytics for Social Impact Measurement</li> <li>- Digital Marketing and Outreach</li> <li>- Cybersecurity and Data Privacy</li> </ul>	<ul style="list-style-type: none"> <li>- Effective use of digital tools for outreach and engagement</li> <li>- Data-driven decision-making</li> <li>- Safe and secure online operations</li> </ul>
6	Empowered Ecosystems	Developing practical skills and networks	<ul style="list-style-type: none"> <li>- Community-Based Projects and Immersion</li> <li>- Mentorship Programs with Experienced Entrepreneurs</li> <li>- Incubation and Acceleration Support</li> <li>- Networking Opportunities with Industry Leaders</li> </ul>	<ul style="list-style-type: none"> <li>- Enhanced practical skills and knowledge</li> <li>- Strong professional networks</li> <li>- Increased venture success rate</li> </ul>

highly transferable and beneficial across various phases of work and employment, as they are essential for navigating complex challenges and driving innovation in any field. Specific entrepreneurship skills, broadly classified as 21st Century Skills, and financial strategic planning, significantly contribute to the effectiveness of youth-led ventures and individual career readiness. Effective communication facilitates collaboration and trust-building, problem-solving enables ventures to overcome challenges, and adaptability allows them to thrive in dynamic environments. These skills not only enhance venture outcomes but also equip students with valuable competencies for future employment.

## CONCLUSION

Digital trust features prominently in this toolkit and it is recognized as a base for building strong foundations to advance social causes. By adopting these recommendations, universities can foster a more relevant and impactful entrepreneurship education that empowers students to not only launch successful ventures but also address pressing social and economic challenges from a ground-up approach. This research underscores the importance of fostering digital trust and equipping student entrepreneurs with the skills and frameworks necessary to create impactful and sustainable ventures. Future research should focus on rigorously testing the proposed approach to entrepreneurship education in university settings, employing experimental or quasi-experimental designs to compare outcomes between students who receive traditional entrepreneurship training and those who participate in programs that emphasize policy engagement and systems change. Longitudinal studies would also be invaluable to track the long-term impact of these educational interventions on students' career trajectories, venture sustainability, and contributions to societal well-being.

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