

Aspirations, Ambitions, and Approximations in WSIS+20: Empowering BoP Markets through Innovation and Entrepreneurship in the Information Society

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Abstract

The World Summit on the Information Society (WSIS)+20 review, as detailed in Revision 2 of the outcome document dated 3 December 2025, marks a key evolution in global digital governance. This paper begins with the original premise of WSIS in 2005, comparing progress in the digital world and WSIS evolution since then. It explores the aspirations and ambitions outlined in WSIS+20, contrasted with approximations—gaps and incomplete realizations—from developed and developing country perspectives. Emphasizing Base of the Pyramid (BoP) markets, it investigates the integration of innovation and entrepreneurship into a people-centered Information Society, highlighting the critical need for market and enterprise connectivity to realize WSIS ideations. Through spatial analysis and hybrid financial models, the study identifies strong commitments to inclusivity but limited operational strategies for BoP empowerment. Expanded examples of frugal innovations and case studies of BoP entrepreneurship are presented to underscore areas deserving WSIS+ focus. Proposals are enhanced with policy recommendations to foster frugal innovations and market connectivity, enabling BoP populations to evolve from passive recipients to active contributors in the digital economy. Towards the end, it introduces the birth of fluid organizations as adaptive solutions to governance challenges. This work highlights WSIS+20's role in promoting equitable digital advancement amid technological progress.

GENESIS 0.0: The Original Premise of WSIS in 2005: Foundations and Evolution

The World Summit on the Information Society (WSIS), a pivotal United Nations initiative, was strategically convened in two distinct phases—Geneva in 2003 and Tunis in 2005—to address the growing global disparity in access to and utilization of information and communication technologies (ICTs), commonly known as the digital divide, and to strategically leverage ICTs as powerful catalysts for sustainable global development (United Nations, 2005a; United Nations, 2005b).

The fundamental, overarching premise that underpinned the WSIS was the commitment to collaboratively construct a "people-centered, inclusive, and development-oriented Information Society." This aspirational society was envisioned as one where every individual, regardless of their geographic location or socio-economic status, would possess the ability to create, access, utilize, and share information and knowledge effectively. The ultimate goal was to empower all people to realize their full potential and contribute meaningfully to development (United Nations, 2003).

This comprehensive vision was not merely an idealistic goal; it was firmly grounded in and premised upon the core purposes and enduring principles of the UN Charter, the universal recognition and respect for human rights, and the essential concept of multi-stakeholder cooperation. This unique cooperative model brought together, on an equal footing, the crucial participation of governments, the dynamic private sector, vibrant civil society organizations, and the indispensable technical communities responsible for the Internet's infrastructure and standards.

The World Summit on the Information Society (WSIS) culminated in two landmark outcome documents that have since served as the foundational pillars for global information and communication technology (ICT) policy and governance: the **Geneva Declaration of Principles (2003)** and the **Tunis Agenda for the Information Society (2005)**.

These internationally agreed-upon documents established a comprehensive, multi-stakeholder framework dedicated to addressing and effectively bridging the widening global digital divides. The strategy was meticulously designed, focusing on several interconnected priority areas essential for fostering an inclusive and development-oriented Information Society:

1. **Infrastructure and Connectivity Expansion:** A central focus was placed on the rapid and strategic expansion of essential ICT infrastructure, particularly in developing countries. This involved promoting investment, appropriate regulatory frameworks, and technological neutrality to ensure widespread network coverage and high-speed access capabilities.

2. **Affordability and Universal Access:** The outcomes strongly emphasized the necessity of ensuring that ICT services and devices were not only physically accessible but also affordable to all segments of the population, thereby addressing the crucial economic barrier to digital inclusion. This principle was key to moving toward a goal of true universal access.
3. **Capacity-Building and Digital Literacy:** Acknowledging that infrastructure alone is insufficient, the documents mandated substantial global investment in human capacity-building. This involved comprehensive digital literacy initiatives, skills training, and the development of locally relevant content to empower individuals and communities to effectively utilize ICTs for personal, professional, and civic engagement.
4. **Security, Trust, and Ethical Use:** Recognizing the growing threats in the digital realm, the WSIS outcomes promoted the development of a trusted and secure ICT environment. This entailed fostering international cooperation on cybersecurity, promoting ethical principles for technology use, and safeguarding consumer rights and data privacy within the Information Society.

Crucially, the Geneva Declaration and the Tunis Agenda formally recognized and strongly affirmed the **immense and transformative potential of the Internet**. They positioned the Internet as far more than just a communication tool, identifying it explicitly as a key, catalytic engine for accelerated economic growth, comprehensive social development, good governance, and pervasive innovation across all sectors, including health, education, and commerce (ITU, 2005). The Summit, therefore, successfully translated the global ambition for an interconnected world into a detailed, actionable agenda for international cooperation and national policy-making.

The World Summit on the Information Society (WSIS) process established a comprehensive and enduring framework for global cooperation on Information and Communication Technologies (ICTs). Born from a necessity to bridge the burgeoning digital divide and ensure the equitable use of new technologies, WSIS set the foundational agenda for subsequent global discussions on critical issues such as Internet governance, digital rights, and the pivotal role of digital technologies in achieving broader human development goals. The initial phase of this global endeavor, culminating in the 2005 Tunis Agenda, effectively positioned ICTs not merely as tools, but as essential accelerators for the United Nations Millennium Development Goals (MDGs) and, later, the transformative Sustainable Development Goals (SDGs).

Since the original World Summit in 2005, the global digital landscape has undergone a profound, rapid, and accelerating metamorphosis, fundamentally reshaping societies, economies, and personal interactions. The most immediate and striking measure of this change is the dramatic surge in internet access. In 2005, the internet remained an exclusive domain, accessible to approximately 16% of the global population. By 2025, this measure of access has transitioned from a luxury to an essential utility, accessed by well over 60% of the world's inhabitants (ITU, 2025a).

This exponential and unprecedented growth in connectivity has been overwhelmingly propelled by the convergence of three interconnected and mutually reinforcing technological pillars:

1. **Widespread Deployment of Mobile Broadband Infrastructure:** The aggressive global expansion of 3G, 4G, and 5G networks has brought high-speed internet access to remote and previously unconnected populations, bypassing the need for expensive and slow-to-deploy fixed-line infrastructure. This mobile revolution has democratized connectivity on an unparalleled scale.
2. **Mass Adoption of Affordable Smartphones:** The continuous decline in the cost of feature-rich smartphones has placed powerful computing and connectivity tools directly into the hands of billions. For many, the smartphone is the primary, if not the only, means of accessing the internet, transforming it into the indispensable gateway for information, commerce, education, and healthcare.
3. **Maturation of Cloud Computing Services:** The development of robust, scalable, and decentralized cloud infrastructure has fundamentally altered how digital resources are accessed and utilized. Cloud services provide affordable access to powerful computing resources, storage, and sophisticated applications, enabling innovation and service delivery across diverse sectors without the need for large local investments.

Collectively, these technological advancements have not only expanded the raw numbers of connected users but have also deepened the integration of digital technologies into every facet of global life, thereby amplifying the urgency and complexity of the issues initially addressed by the WSIS framework.

Beyond mere connectivity, the era has been defined by the emergence of truly transformative technologies. Advancements in artificial intelligence (AI) are reshaping decision-making processes across industries; blockchain technology is fundamentally redefining trust and transparency in transactions; and the capacity to analyze vast datasets (big data) has unlocked unprecedented insights. These innovations have not just optimized existing models but have actively revolutionized critical sectors—from agile financial services (FinTech) and personalized healthcare to precision agriculture—simultaneously fostering entirely new economic models and significantly enhancing global and local connectivity.

However, this spectacular progress is shadowed by persistent and evolving challenges. The traditional **digital divide**, once primarily a matter of simple access, has metastasized into a more complex issue of **meaningful usage**. While the high-level statistics are positive, a significant portion of the global population, particularly in **Base of the Pyramid (BoP) markets**, remains functionally excluded. These communities face significant, multi-layered barriers that prevent them from fully harnessing the digital world's potential. These obstacles include prohibitive costs associated with devices and data plans (affordability), a persistent lack of foundational

digital literacy and advanced technical skills (skills gap), and chronic shortcomings in last-mile physical network infrastructure (infrastructure deficits) (World Bank, 2024).

Furthermore, the geopolitical environment of the digital world has become increasingly intricate. The ascendancy of nationalistic policies and regulatory frameworks has fueled global debates concerning **data sovereignty**—the notion that data is subject to the laws and governance structures within the nation it is collected. Concurrently, the sophistication and frequency of **cyber threats**, encompassing state-sponsored espionage, organized cybercrime, and critical infrastructure attacks, have drastically heightened global systemic risk. These geopolitical and security complexities serve as powerful forces that actively complicate and often stall crucial multilateral cooperation efforts necessary to ensure a truly inclusive, open, and secure global information society. The transition to the next phase of the digital revolution requires concerted, nuanced efforts to address both the technological challenges and these widening socio-political rifts.

The World Summit on the Information Society (WSIS) has undergone a profound transformation, evolving from a high-level, summit-focused process held in two phases (Geneva 2003 and Tunis 2005) into a dynamic, continuous multi-stakeholder framework for global digital cooperation. The initial goals of bridging the digital divide and building an inclusive Information Society have been continually revisited and expanded.

A first critical juncture was the WSIS+10 Review in 2015, which assessed the significant progress made across the WSIS Action Lines while simultaneously acknowledging persistent gaps. This review not only extended the original mandate but also crucially served as the formal mechanism for integrating the WSIS process and its Action Lines directly into the new global development agenda—the 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs). This integration positioned ICTs and digital development as key enablers across all 17 SDGs (United Nations, 2015). To sustain this momentum, the establishment of annual WSIS Forums became the central mechanism for the ongoing implementation tracking, experience sharing, and high-level dialogue among governments, the private sector, civil society, and the technical community.

By the time of the anticipated WSIS+20 review, the process has cemented its role as a fundamental pillar of global digital governance. Its influence extends deeply into contemporary digital policy initiatives, notably shaping the discussions within the Internet Governance Forum (IGF) and providing foundational input for the emerging Global Digital Compact (GDC), a major initiative aiming to establish shared principles for an open, free, and secure digital future. Contemporary WSIS discussions, as reflected in high-level forums, increasingly emphasize complex, cutting-edge topics such as AI ethics, ensuring responsible and human-centric artificial intelligence; bolstering cybersecurity to protect digital infrastructure and users; and promoting genuinely inclusive governance models that reflect global diversity and secure fundamental rights in the digital space (ITU, 2025b; UNCTAD, 2025).

Despite this evolution and the notable progress in global connectivity, significant structural challenges—or "approximations"—remain. While access to networks has expanded globally, the corresponding equitable market participation and meaningful enterprise integration, especially for populations at the Base of the Pyramid (BoP), remain persistently underdeveloped. The mere presence of connectivity does not automatically translate into sustained economic opportunity. This highlights a critical gap: the WSIS framework needs to move beyond generic connectivity goals and more explicitly and robustly connect its high-level ideations and policy outputs to the practical entrepreneurial ecosystems that are the true drivers of economic franchise, wealth creation, and sustainable development in underserved populations (Mamun, 2025a). The challenge for the next phase of WSIS lies in catalyzing these grassroots economic transformations through targeted digital policy and investment.

The most important element during the WSIS+20 process is the advent of Artificial Intelligence and an impending Technological Singularity. That ought to change the paradigm.

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1. The Imperative for Recalibration in Digital Governance

The forthcoming WSIS+20 process, an essential commemoration of two decades since the seminal World Summit on the Information Society (WSIS) gatherings, takes place at a critical juncture marked by profound, rapid transformations within the global digital ecosystem. The anticipated Revision 2 of the final outcome document (United Nations, 2025c) is set to unequivocally reassert the foundational vision: an Information Society that is people-centered, fundamentally inclusive, and primarily oriented toward sustainable development. This vision hinges on the effective leveraging of rapidly evolving digital technologies as key catalysts for broader socio-economic progress and meaningful human empowerment across the globe.

The ambitious objectives laid out in global frameworks, such as the World Summit on the Information Society (WSIS), envision a truly inclusive and equitable global information society where digital technologies serve as powerful accelerators of sustainable development. These goals—which span universal access, capacity building, cybersecurity, and the promotion of cultural diversity in the information society—represent a collective, visionary commitment to leveraging technology for human progress and economic opportunity on an unprecedented scale.

However, the realization of these ambitious goals is significantly complicated, and in many cases fundamentally challenged, by the persistent, stark realities of the global digital divides. These gaps are not merely about a lack of connectivity; they are multi-layered disparities encompassing issues of access, affordability, skills, relevant content, and meaningful use. These divides are particularly acute, deeply entrenched, and structurally pervasive within what are commonly referred to as Bottom-of-the-Pyramid (BoP) markets. These markets collectively encompass billions of individuals—estimated to be over four billion people—who exist in resource-limited, under-served, and often marginalized settings worldwide. The continuation and, in some contexts, widening of these divides acts as a substantial check on the optimistic potential articulated in the WSIS framework (Prahalad, 2004). The lack of foundational infrastructure, high costs of entry, and low digital literacy in these regions create systemic barriers that prevent the transformative power of Information and Communication Technologies (ICTs) from reaching those who stand to benefit the most.

Consequently, any comprehensive analysis of the progress and future direction of the WSIS framework, particularly in the context of the WSIS+20 discourse, must adopt a nuanced, tri-partite structure to honestly assess the path forward. This analytical approach frames the discussion as follows:

1. **Aspirations:** This category represents the broad, visionary, and long-term objectives. It encompasses the high ideals and ethical imperatives of the

information society—the ultimate, transformative state we aim to achieve, such as eradicating digital poverty and ensuring human rights are upheld in the digital sphere.

2. **Ambitions:** These denote the specific, targeted, and strategic policy goals necessary to move toward the aspirations. This includes time-bound targets, measurable policy interventions, specific technological deployment strategies, and multi-stakeholder commitments aimed at bridging the core divides in the short to medium term.
3. **Approximations:** This crucial third element acknowledges the practical, structural, political, and economic limitations that constrain immediate or rapid progress. It involves a sober recognition of constraints such as geopolitical tensions, regulatory inertia, market failures in low-income areas, the financial sustainability of infrastructure projects, and the complex challenge of aligning diverse national interests with global agendas. These approximations shape the realistic scope and timeline for converting ambitions into tangible results.

The political landscape within the WSIS process is typically bifurcated by the dominant views of its member states. Developed countries often champion models emphasizing multi-stakeholder governance and voluntary, market-driven innovation, prioritizing technological advancement and private sector leadership. Conversely, developing countries consistently advocate for stronger, more equitable, and often binding international mechanisms to ensure universal access, capacity building, and resource transfer, focusing heavily on bridging the digital divide as a matter of global justice.

A central theme of this paper is the imperative to forge a robust, actionable link between technological innovation, entrepreneurship, and the foundational concept of the Information Society, specifically positioning this nexus as a powerful and scalable pathway for the empowerment of the Base of the Pyramid (BoP). This approach signifies a crucial paradigm shift away from traditional, often passive models of technology dissemination. Historically, digital access was often passively received, placing individuals in a position of dependency on external providers, subsidies, or infrastructure initiatives.

The proposed paradigm, however, pivots toward one that fosters active **agency**—a state where digital tools and platforms are not merely consumed but actively leveraged to facilitate self-determination, economic participation, and local value creation. This shift recognizes that true digital inclusion is achieved when technology moves beyond consumption to become a catalyst for production and entrepreneurial activity (Mamun, 2025a; Mamun, 2025b). By intertwining innovation and entrepreneurship, the Information Society framework becomes an engine for sustainable economic growth and social mobility, enabling BoP communities to define and execute their own developmental trajectories rather than relying solely on top-down aid or externally defined solutions. This active digital agency is the cornerstone of a resilient and inclusive global digital economy.

This required linkage critically underscores the necessity of moving beyond mere technological connectivity to establishing robust **market and enterprise connectivity**. Technological access, while foundational, is insufficient on its own to drive genuine economic empowerment. Instead, the focus must shift to creating seamless, low-friction pathways that integrate marginalized economies and micro-enterprises directly into the global digital value chain.

WSIS policy ideations must therefore evolve beyond abstract policy formulation to actively facilitate direct, friction-less access for Bottom-of-the-Pyramid (BoP) micro-entrepreneurs to global markets. This requires not just providing an internet connection, but also developing and promoting user-friendly digital platforms, secure e-commerce solutions, affordable logistics networks, and accessible digital payment systems. This enablement is vital for allowing small-scale, local enterprises to overcome geographic barriers, access a wider customer base, scale their operations efficiently, and make substantive, measurable contributions to localized economic development and global sustainable growth, aligning with the Sustainable Development Goals (SDGs).

Such policies must also address capacity building, digital literacy, and the regulatory environment to ensure equitable participation.----The methodology employed in this analysis utilizes advanced spatial analysis techniques to map and visualize the thematic density of various policy proposals and discussions (Tobler, 1970). Specifically, this involves geo-referencing and clustering policy documents, ministerial declarations, and expert contributions based on conceptual proximity and topical focus. This sophisticated geospatial approach enables a clear, empirical identification of key areas of political consensus and conceptual alignment across diverse stakeholders and regions. Crucially, it highlights significant policy and implementation gaps, revealing critical deficits in current strategies, particularly in the transition from connectivity rhetoric to tangible market integration. Ultimately, this methodology reveals actionable opportunities for constructing a more equitable, inclusive, and functionally effective global digital landscape in the coming decades, providing a data-driven blueprint for future international cooperation and investment.

2. The WSIS+20 Framework: Aspirations and Ambitions in Revision 2

The **World Summit on the Information Society (WSIS) +20 Review** represents a pivotal and ambitious extension of the original **Geneva Declaration of Principles** and the **Tunis Agenda for the Information Society**. This comprehensive Revision 2 of the WSIS outcomes is designed to be deeply aligned with the global framework for progress established by the **2030 Agenda for Sustainable Development** and the emerging principles of the **Global Digital Compact (United Nations, 2025d)**. It

acknowledges that, two decades on, the digital landscape has transformed fundamentally, necessitating a revised vision to ensure technology serves humanity's highest goals.

The foundation for this revised framework was meticulously laid through an extensive series of global and regional consultations leading up to the high-level meeting scheduled for **December 2025**. The overarching vision that emerged from these multi-stakeholder discussions, as documented in the preparatory materials (**United Nations, 2025c**), is centered on cultivating a truly **inclusive digital environment**. This environment is conceived as a universal space where the benefits of digital transformation are accessible to all, irrespective of geography, socio-economic status, or physical capability.

Crucially, this expanded vision is **grounded in a resolute commitment to human rights**. The WSIS+20 Review seeks to reinforce the principles of freedom of expression, privacy, and non-discrimination in the digital realm, ensuring that technological progress does not erode fundamental human liberties. It mandates that digital policies and practices must safeguard democratic values and empower individuals.

Furthermore, the Review institutionalizes and strengthens the **multi-stakeholder engagement model**. This foundational principle acknowledges that no single entity—government, private sector, civil society, or technical community—can unilaterally govern the complex Information Society. The success of the WSIS+20 agenda hinges on collaborative, transparent, and representative governance mechanisms that draw on the diverse expertise and perspectives of all relevant actors. This approach is essential for addressing complex challenges like digital divides, cybersecurity threats, and the ethical implications of advanced technologies.

The vision for the next phase of the World Summit on the Information Society (WSIS+20) is anchored in a comprehensive set of core ambitions that aim to accelerate inclusive digital transformation globally.

Core Ambitions and Digital Inclusion:

A central pillar of this renewed effort is the commitment to **bridging digital divides** (para. 10). This involves a three-pronged strategy: significant **infrastructure investment** to expand network coverage, particularly in underserved regions; measures to enhance **affordability** of digital devices and services, ensuring access is not a privilege but a universal right; and substantial efforts in **skills enhancement** and digital literacy to ensure populations can effectively utilize and benefit from digital technologies. Furthermore, **gender empowerment** (para. 11) is recognized as a specific and critical cross-cutting theme, stressing the need to dismantle barriers and promote equal participation for women and girls in the digital economy and society.

Celebrating Progress and Strategic Alignment:

The framework acknowledges the progress achieved since the original WSIS, **celebrating the significant expansion of global connectivity** (para. 6). Building on this momentum, the current phase strategically **positions digital development as a fundamental enabler for achieving the Sustainable Development Goals (SDGs)** (para. 7). This recognition transforms digital policy from a sectoral issue into a vital catalyst for progress across all global development objectives, from education and health to climate action and poverty eradication.

Upholding Foundational Principles:

The document strongly reaffirms core principles of **sovereign equality** among nations and stresses the importance of **barrier-free and meaningful participation** (paras. 4-5). This emphasis is particularly directed at ensuring that **constrained stakeholders**—including Least Developed Countries (LDCs), Small Island Developing States (SIDS), landlocked developing countries, and marginalized groups—have an unhindered and influential voice in global digital governance and policymaking.

A Call for Economic Inclusion and Market Prioritization:

To effectively translate these high-level aspirations into tangible economic benefits and truly realize the original WSIS premise of "building a people-centred, inclusive and development-oriented Information Society," the WSIS+20 agenda **must prioritize market and enterprise connectivity**. This means shifting focus beyond mere consumer access to creating an environment that actively supports **integrating Base of the Pyramid (BoP) entrepreneurs into global value chains**. This integration should be driven through the innovative use of **digital platforms that bypass traditional intermediaries**, effectively reducing transaction costs, increasing market reach, and **fostering profound economic inclusion** for small businesses and marginalized communities worldwide.

The aspirations targeting Bottom-of-the-Pyramid (BoP) markets within the broader digital development agenda, such as the World Summit on the Information Society (WSIS) frameworks and their revisions, fundamentally aim to leverage digital technologies as a primary engine for promoting genuine economic inclusion and fostering sustainable livelihood improvements. However, a critical analysis of the operationalization of these noble goals reveals a significant and recurring disconnect between the high-level, visionary rhetoric and the concrete, implementable actions directed specifically at the BoP demographic.

The **visionary and aspirational elements**—which often emphasize empowerment, bridging the digital divide, and ensuring universal access—tend to be heavily

concentrated within the preambles, introductory statements, and overarching policy declarations of key international and national digital strategies. These sections articulate a powerful commitment to using digital tools for transformative social and economic change.

Conversely, the **BoP-specific actions and operational strategies**—the precise mechanisms, funding allocations, and localized program designs necessary to translate the grand vision into tangible benefits for the poorest populations—remain notably sparse, often appearing diffused across various sectoral strategies or relegated to generic, non-specific commitments. This lack of focused, dedicated operationalization leads to what can be characterized as **approximations in execution**, where the potential for deep economic inclusion is acknowledged but the practical steps to achieve it are either generalized or inadequately resourced.

This structural gap suggests that while digital inclusion is conceptually embraced for BoP markets, the targeted strategic planning required to overcome the unique socio-economic barriers faced by these communities (e.g., low literacy, lack of digital skills, cost barriers, and unreliable infrastructure) is insufficient. As documented by Mamun (2025b), the diffusion of BoP-relevant actions prevents a coherent, measurable, and impactful deployment of digital tools necessary to catalyze widespread economic upliftment for those at the very base of the economic pyramid.

3. Developed Countries' Perspectives: Innovation-Driven Ambitions

The developed world approaches the twenty-year review of the World Summit on the Information Society (WSIS+20) with a core emphasis on fostering voluntary, multi-stakeholder models. These models are primarily geared towards leveraging innovation and market dynamics to drive global digital expansion. A central theme is the advocacy for open and secure digital environments, consistent with the spirit of collaborative governance (as indicated by the importance placed on secure digital spaces, para. 8). Furthermore, these nations underscore the Internet's intrinsic value as a major engine for economic growth and prosperity (para. 6). Their perspective frames effective governance not as a regulatory burden, but as a crucial catalyst for entrepreneurship, strongly favouring private sector-led digital services and solutions (Global Network Initiative, 2025). This outlook is fundamentally rooted in the belief that market mechanisms are the most efficient means of achieving a globally connected and digitally empowered society.

Within the context of 'Base of the Pyramid' (BoP) scenarios—encompassing the world's largest but poorest socio-economic groups—the aspirations of WSIS+20 are uniquely translated. Here, the focus shifts toward promoting "frugal innovations," which involve the clever and efficient use of advanced technologies, such as Artificial

Intelligence (AI) and blockchain, to develop highly cost-effective and accessible solutions (Winterhalter et al., 2017). The overarching goal of universal connectivity (para. 9) is practically approximated through targeted digital skills initiatives. These programs are designed specifically to equip BoP entrepreneurs with the necessary competencies to engage with and integrate into the global digital economy. Crucially, developed perspectives strongly advocate for enhancing market connectivity by supporting and promoting digital platforms that directly link BoP enterprises to international supply chains. This mechanism significantly enhances the original WSIS ideations by transforming the basic provision of digital access into concrete and measurable economic opportunities. However, this market-centric approximation is met with inherent resistance, particularly concerning any notions of compulsory technology sharing or transfer. This resistance can inadvertently overlook or fail to adequately address the deeper, more complex structural hurdles—such as inadequate infrastructure, fragmented policy, and lack of foundational financial inclusion—that fundamentally constrain BoP populations (Kolk et al., 2022).

Overall, the developed world's aspirational outlook for the Information Society is one fueled by dynamic public-private partnerships and market-driven solutions. Yet, the current approximations reveal significant inclusivity shortfalls, especially in the development and deployment of mechanisms truly tailored for the BoP context. A notable example is the slow or insufficient adoption of innovative, hybrid finance models that can bridge the funding gap for BoP entrepreneurs and address risks that traditional finance avoids (Mamun, 2025a). This highlights a critical challenge: transforming high-level global aspirations into actionable, context-specific solutions that genuinely ensure no one is left behind in the advancing digital age.

As we have seen in the past two months, the dominant negotiation primers (core emphasis and perspective) shown by the developed world during the WSIS+20 negotiations in 2025 included:

- **Voluntary, Multi-stakeholder Models:** A core emphasis on fostering these models to drive global digital expansion.
- **Innovation and Market Dynamics:** Primacy given to leveraging these for growth.
- **Open and Secure Digital Environments:** Advocacy for these, consistent with collaborative governance.
- **Economic Engine:** Underscoring the Internet's intrinsic value as a major engine for economic growth and prosperity.
- **Catalyst for Entrepreneurship:** Framing effective governance as a catalyst for entrepreneurship rather than a regulatory burden.
- **Private Sector-led Solutions:** Strongly favouring private sector-led digital services and solutions.
- **Market Mechanisms:** A fundamental belief that market mechanisms are the most efficient means of achieving a globally connected and digitally empowered society.

4. Developing Countries' Perspectives: Equity-Seeking Aspirations

The pursuit of equitable digital governance is a central theme in the perspectives of developing countries, who are prioritizing the establishment of **enforceable equity** within global digital frameworks (para. 5). This imperative is strongly supported by influential groups such as the G77 coalition, whose contributions to the WSIS review highlight the persistent and widening **intra- and inter-country digital divides** (United Nations, 2025e). To effectively address these gaps and ensure the realization of the original WSIS goals, these nations are urgently calling for robust mechanisms for **cooperative financing** and comprehensive **technology transfer**. This is seen as critical for building the foundational infrastructure and human capacity necessary to thrive in the digital economy.

The underlying **ambitions** of the WSIS review seek a fundamental shift for **Bottom of the Pyramid (BoP) markets**, transitioning them away from a reliance on external aid and towards a model driven by **innovation and self-sufficiency**. This demands a multi-pronged approach that guarantees **affordable access** to digital technologies and fosters **diversity** in digital content and applications. The goal is to stimulate significant **micro-enterprise growth** and wealth creation within these communities (Drouillard, 2017). The **Revision 2's divide concerns** (para. 10) deeply resonate with the practical requirements for enhancing **linguistic diversity** online and developing essential **digital skills**. This focus is intended to empower the BoP population through the strategic deployment of **frugal solutions**—low-cost, high-impact innovations tailored to their specific needs (Hossain, 2020). To solidify this vision and provide a tangible pathway for inclusive development, WSIS must explicitly **embed enterprise connectivity** into its action plan. This strategic focus would directly enable BoP markets to bypass traditional intermediaries and **directly engage with global buyers and suppliers**, thus fully **operationalizing the 2005 vision of inclusive development** by making it an economic reality.

Despite these significant aspirations, the current **approximations** of commitment fall short. They predominantly consist of **non-binding commitments**, which are widely deemed **inadequate** to bridge the colossal **USD 4 trillion financing gap** required for global digital transformation (World Bank, 2024). While acknowledging the existence of relevant institutional entities, such as the **United Nations Technology Bank** (para. 10), there is a critical consensus that these bodies currently lack **BoP-focused frameworks**. Specifically, they have yet to develop and implement targeted, on-the-ground initiatives, such as locally-managed and sustainable **connectivity hubs**, which are essential for reaching the unserved and underserved populations and are crucial for the practical implementation of digital inclusion (Mamun, 2025b).

The dominant negotiation primers (core emphasis and perspective) shown by the developing world during the WSIS+20 negotiations in 2025 included:

- **Enforceable Equity:** Prioritizing the establishment of enforceable equity within global digital frameworks (para. 5).
- **Addressing Digital Divides:** Highlighting the persistent and widening intra- and inter-country digital divides.
- **Cooperative Financing:** Urgently calling for robust mechanisms for cooperative financing.
- **Technology Transfer:** Urgently calling for comprehensive technology transfer.

5. BoP Markets: Aspirations for Digital Inclusion and Empowerment

The Base of the Pyramid (BoP) markets, which encompass the vast majority of the world's low-income populations, serve as the crucial proving ground for the WSIS+20 aspirations for a truly development-focused Information Society. The core aspiration is centered on achieving **meaningful ICT access** (aligned with the principles articulated in the document's paragraph 9). This meaningful engagement is intended to empower BoP individuals, enabling them to fully realize their latent potential through robust and equitable **knowledge exchange** (echoing the mandate in paragraph 1). This extends beyond mere connectivity to encompass the ability to utilize digital tools effectively for personal, social, and economic advancement. Strategic Ambitions for Digital Inclusion and Economic Empowerment

The strategic ambitions for the BoP are multifaceted, aiming for their deep embedment within the digital economy. A key pathway for this is through the promotion of **entrepreneurship**. This approach is intrinsically linked with fostering **frugal innovations**—resource-efficient solutions that are specifically designed to address local scarcity and operational constraints with maximum efficiency (as highlighted by the work of Radjou and Prabhu, 2015).

To ensure the financial viability and scalability of these BoP initiatives, there is a push for **hybrid approaches** that strategically merge the established mechanisms of microfinance with the enhanced accountability and data transparency afforded by digital technologies (Mamun, 2025a). This is a deliberate strategy to effectively channel much-needed financial resources to the grassroots level, simultaneously supporting the principle of **fair benefit distribution** (as emphasized in paragraph 7). Crucially, this economic model is designed to facilitate a fundamental shift in the BoP's role—from passive consumers or recipients to active **producers** and creators of value within the digital ecosystem.

Central to achieving this production-oriented role is robust **market connectivity**. This is the vital link that translates the theoretical ideations of WSIS into tangible, real-world enterprise by actively **facilitating BoP access to global markets**. The resultant reduction in dependency on local, often limited, markets and the simultaneous promotion of economic **autonomy** are considered essential for sustainable development. Implementation Realities and Persistent Challenges

Despite these high-level inclusion pledges, the practical realities of implementation reveal a complex landscape of **approximations**. Spatially, the commitment to digital inclusion tends to be concentrated in initial, policy-making stages (upfront efforts), but the practical and effective **diffusion of BoP innovation mechanisms remains inadequate** (Mamun, 2025b).

The primary barriers that persist, necessitating more targeted and sustained efforts, are the issues of **affordability** of both devices and services, and the widespread existence of **skill barriers** related to digital literacy and technical competency. Bridging this implementation gap between policy intent and ground-level execution is the defining challenge for the successful realization of the WSIS+20 agenda.

6. Connecting Innovation and Entrepreneurship to the Information Society

The post-2020 vision for the World Summit on the Information Society (WSIS+20) fundamentally anchors itself on creating an Information Society where innovation and entrepreneurship are the primary engines for inclusion, particularly for the Base of the Pyramid (BoP) populations. This paradigm shift acknowledges that mere access to technology is insufficient; it must be coupled with mechanisms that drive economic participation and empowerment.

A central concept in this vision is **Frugal Innovation**, a methodology inherently amplified by digital technologies. This approach focuses on developing resource-thrifty, high-value solutions specifically for resource-constrained, developing contexts. This differs from simple adaptation of developed market products, often resulting in truly novel solutions that are locally relevant and scalable (Onsongo, 2019). Digital means provide the necessary infrastructure for rapid prototyping, distributed production, and wide-scale dissemination of these frugal innovations.

Simultaneously, **BoP Entrepreneurship** is gaining unprecedented traction through the utilization of digital platforms. These platforms serve as critical market linkages, overcoming geographical barriers and information asymmetries. By connecting producers with consumers, suppliers, and global value chains, these digital ecosystems foster the spawning of numerous micro-enterprises. This integration into

global networks is a powerful mechanism for wealth creation and economic self-sufficiency at the grassroots level (Kistruck et al., 2013). This market and enterprise integration is absolutely vital to the current WSIS ideations, as it directly translates digital access—the premise of the original WSIS—into tangible economic empowerment and inclusive growth, fully aligning with the 2005 Geneva Declaration's foundational principles.

However, the path to this integrated Information Society presents divergent perspectives on implementation:

- **Developed Perspectives:** These often emphasize the role of voluntary, multi-stakeholder social innovation alliances. The focus is on leveraging corporate social responsibility (CSR), philanthropic capital, and non-profit expertise to drive scalable social solutions through collaborative partnerships (Doh et al., 2024). The underlying assumption is that market mechanisms, supplemented by strategic alliances, can address many of the inclusion gaps.
- **Developing Perspectives:** Conversely, views from the Global South stress the necessity of proactive, state-supported capacity-building initiatives. These calls focus on investing in digital literacy, technical vocational training, and supportive regulatory environments to ensure that the BoP population is fully equipped to leverage the benefits of human-technology synergy (Mamun, 2025a). This perspective argues that systemic gaps in infrastructure and education require governmental or multilateral intervention to guarantee equitable benefit distribution from the digital economy.

The WSIS+20 agenda, at least for this paper, thus aims to synthesize these views, advocating for a holistic ecosystem where technological innovation, supportive policy, and local entrepreneurship converge to build a truly inclusive, economically vibrant, and sustainable Information Society.

6.1 Expanding on Frugal Innovations: Examples

Frugal innovations stand as a powerful testament to the principles of cost-effective and resource-efficient problem-solving, offering locally adapted solutions that resonate deeply with the WSIS+ ambitions for achieving affordable and universal access to essential services and technologies. These ingenious low-cost solutions, often utilizing readily available materials and indigenous knowledge, are crucial for bridging socio-economic and digital divides in underserved communities.

A prime illustration of this philosophy in the realm of sustainable living is the **electricity-free clay refrigerator**. This device operates on the principle of evaporative cooling, using a simple, dual-pot design with sand and water. It requires no external power source, making it an ideal solution for off-grid or remote areas. By preserving perishable goods like fruits and vegetables for longer periods, it significantly reduces

food waste and provides vital support to small-scale farmers and local market systems (Borgen Magazine, 2022). This innovation directly addresses food security and sustainability, aligning with the broader WSIS goal of using ICTs (and related innovations) for development.

In the domain of affordable illumination and household productivity, the **solar-powered light bottle (or 'Liter of Light' concept)** offers another compelling example. Created by filling clear plastic bottles with water and a small amount of bleach (to prevent mold), these bottles are embedded into a roof and refract sunlight, providing the equivalent of a 40-60 watt electric bulb of free, natural light during the day. This simple yet profound innovation enhances safety in homes, improves living conditions in informal settlements, and increases productivity by extending the hours when reading, studying, or household work can be performed without cost (Borgen Magazine, 2022).

Healthcare, too, has been revolutionized by frugal approaches. The development of **low-cost premature baby care wraps** exemplifies how life-saving technology can be democratized. These thermal regulatory wraps, often using simple, insulated materials, mimic the function of expensive medical incubators. They are crucial for maintaining the body temperature of preterm infants in resource-scarce clinics and rural health centers, dramatically improving health outcomes and survival rates in settings where advanced medical equipment is prohibitively expensive and logistically challenging to maintain (Borgen Magazine, 2022).

Furthermore, addressing the digital divide directly, **WiFi vending machines** represent a market-based frugal solution for democratizing internet connectivity. By dispensing affordable, small data packets—often in increments like 10 or 30 minutes of access—these machines allow users to purchase connectivity as needed, bypassing the financial barrier of expensive monthly subscriptions. This pay-as-you-go model fosters digital inclusion, enabling more people to access online educational resources, market information, and communication channels, directly supporting the push for universal, meaningful connectivity articulated in WSIS+ paragraph 10 (UNDP, 2020).

These small, diverse, yet relevant examples collectively underscore the core principles of frugal innovation—**doing more with less**—and highlight their pivotal role in achieving the comprehensive development goals of the WSIS framework. Beyond mere invention, they emphasize the critical need for robust **market connectivity and enterprise networks** to effectively scale these innovations from localized pilots into widespread, sustainable solutions that can truly bridge the digital and developmental divides globally.

6.2 Case Studies on BoP Entrepreneurship: Deserving WSIS+ Focus

Case studies focusing on Base of the Pyramid (BoP) entrepreneurship unequivocally demonstrate a profound, often transformative, potential for achieving socio-economic inclusion, making a compelling case for its elevation and significant emphasis within the forthcoming WSIS+ agenda. These local, scalable innovations, often leveraging digital technologies, are essential blueprints for realizing the aspiration of "leaving no one behind" in the information society.

Pillar 1: Revolutionizing Financial Inclusion through Digital Innovation

In a representative developing Sub-Saharan African economy, the introduction of a mobile money platform stands as a quintessential example of institutional innovation that digitally leapfrogged traditional infrastructural barriers. This platform fundamentally revolutionized financial access, enabling thousands of micro-entrepreneurs and marginalized populations to transact securely, save, and access credit without the prerequisite of a formal bank account (Onsongo, 2019). This digital financial ecosystem fostered genuine economic agency, transitioning informal economies toward formal inclusion and demonstrably reducing poverty. The success of such a model highlights how digital tools can be the catalyst for creating entirely new, inclusive markets, directly aligning with the WSIS+ calls for achieving *meaningful connectivity* (as stipulated in para. 9 of the draft agenda). Furthermore, it underscores the critical need to prioritize enterprise connectivity, specifically linking BoP enterprises to the global financial system for capital and sustained growth.

Pillar 2: Addressing Energy Poverty and Promoting Sustainability

Another impactful case study involves the establishment of community-led solar energy enterprises in remote, rural areas. In this model, local community members are trained to assemble, distribute, install, and maintain affordable, decentralized solar power systems. This initiative has a dual impact: it generates sustainable local employment opportunities—creating an entirely new class of energy entrepreneurs—and provides reliable, clean power to households and small businesses previously disconnected from the national grid (Business Fights Poverty, 2024). This directly addresses the persistent global energy divide. Such innovative, localized solutions merit significant WSIS+ focus for policy integration. The agenda must actively link these local innovations to international markets, investment capital, and knowledge-sharing networks to ensure their scale and replication across diverse geographies.

Pillar 3: Enhancing Economic Value and Streamlining Agricultural Value Chains

In the critical sector of agriculture, digital innovation is empowering BoP farmers to fundamentally alter their economic trajectory. The deployment of specialized digital

applications enables these farmers to establish direct connections with buyers, including commercial processors and international exporters. By effectively bypassing traditional, often exploitative, intermediaries (or "middlemen"), these farmers are able to capture a significantly higher percentage of the final sale price, leading to a direct and substantial increase in their incomes (IFC, 2023). These studies collectively reveal the immense, often untapped, innovative capacity residing within the BoP demographic.

WSIS+ Priority

The consistent evidence from these comprehensive case studies decisively demonstrates that a paradigm shift is required for the World Summit on the Information Society (WSIS) + agenda. To achieve effective alignment with the Sustainable Development Goals (SDGs), and most critically, to facilitate the genuine closure of the persistent digital and economic divides, **Base of the Pyramid (BoP) entrepreneurship must be elevated to a core strategic priority.**

The imperative is clear: the WSIS+ framework must move significantly beyond the foundational yet insufficient goal of merely ensuring access to basic connectivity. The central focus must pivot toward **actively fostering and nurturing comprehensive enterprise ecosystems** within BoP communities. This requires a multi-faceted approach that addresses systemic barriers and provides synergistic support mechanisms:

1. **Robust Infrastructure and Connectivity:** While basic access is a prerequisite, the focus must shift to providing reliable, affordable, and high-speed infrastructure capable of supporting complex digital business operations, not just consumption. This includes cloud access, data center proximity, and resilient network architecture.
2. **Policy Certainty and Regulatory Frameworks:** Governments and international bodies must establish stable, predictable, and supportive policy environments. This involves reducing bureaucratic hurdles, protecting intellectual property rights for micro-enterprises, facilitating cross-border digital trade, and ensuring inclusive financial regulations tailored to the informal economy.
3. **Targeted Skills Training and Digital Literacy:** The strategy must move beyond general digital literacy to **deep, practical skills training** relevant to the demands of the global digital economy. This includes training in digital marketing, e-commerce platform management, financial technology (FinTech) usage, data analytics, and essential business management skills necessary for scaling.
4. **Financial Linkages and Investment Capital:** A critical missing piece is the effective connection of BoP entrepreneurs to appropriate and scalable financial resources. This encompasses promoting innovative micro-finance models, facilitating access to angel investment and venture capital tailored for social

impact, encouraging partnerships with FinTech solutions for digital payments, and developing risk-sharing mechanisms to de-risk investment in these nascent markets.

By integrating these elements, the WSIS+ agenda can effectively **connect the immense, often untapped innovative power of the Base of the Pyramid to vast global opportunities**. This strategic focus on entrepreneurial enablement is the essential pathway to ensure their **sustainable, equitable, and meaningful inclusion** in the global information society, transforming them from mere consumers of technology into active creators of economic value.

7. Approximations: Gaps and Challenges in Realization

Amidst the prevailing atmosphere of ambitious declarations emanating from the World Summit on the Information Society (WSIS) process, particularly in the lead-up to the WSIS+20 review, the approximations emerging starkly expose significant and deeply entrenched deficits in the meaningful and equitable integration of the Base of the Pyramid (BoP) populations into the global digital economy.

A critical divergence of priorities is profoundly evident between the developed and developing nations. In the developed world, the primary focus remains overwhelmingly centred on pioneering cutting-edge digital innovation—a pursuit that, while ostensibly approximating the goals of global equity and progress, frequently sidelines the urgent necessity for establishing robust, mandatory global sharing mechanisms. This selective focus on innovation without commensurate concrete commitments to accessibility and transfer risks systemically entrenching existing digital and socioeconomic divides. This growing disparity is a major concern highlighted repeatedly by expert bodies, who point to the potential for innovation to inadvertently exacerbate inequality if it is not proactively paired with concrete, binding equity measures, particularly concerning intellectual property and technological transfer (Global Partners Digital, 2025).

Concurrently, the developing world's fervent aspirations for digital finance inclusion, technological leapfrogging in critical sectors like health and education, and the fostering of local digital ecosystems are being continually hampered by complex issues of implementation diffusion and sustainability. The fundamental reliance on voluntary financial contributions and non-binding technological transfer terms, rather than on codified, internationally-mandated commitments and accountability frameworks, significantly weakens the tangible, lasting impact of these digital initiatives on the ground, especially in last-mile communities. This persistent gap between aspiration and on-the-ground impact underscores a systemic failure to move from aspirational

policy dialogue to effective, measurable, and financed implementation (United Nations, 2025e).

The review further indicates a critical shortfall in the governance framework itself. The multi-stakeholder model, while theoretically inclusive, has struggled to enforce equitable resource allocation and mandate the localization of digital solutions to meet the specific needs and context of BoP communities. The over-reliance on market-driven solutions often overlooks the need for public sector intervention to address market failures inherent in reaching the poorest and most marginalized, leading to a de facto exclusion of those who stand to gain the most from digital transformation. The lack of a binding global mechanism for digital infrastructure investment, particularly in underserved rural and remote areas, remains a defining impediment to achieving universal, affordable, and meaningful connectivity.

Specifically for the Base of the Pyramid (BoP), the existing developmental and economic models are profoundly lacking in practical, scalable, and risk-mitigating entrepreneurial mechanisms. A critical oversight is the scant attention and systemic support given to **frugal entrepreneurship**—models meticulously designed to leverage minimal financial and material resources for maximum societal and economic impact. These initiatives, which prioritize affordability, simplicity, and local relevance, are essential for creating sustainable livelihoods within resource-constrained environments.

This gap is further exacerbated by the inadequate development and deployment of crucial enabling technologies. For instance, blockchain technology, despite its immense promise, remains largely underutilized in BoP contexts. Its potential is transformative, particularly for enhancing supply chain transparency and traceability, which combats corruption and ensures fair value distribution. Furthermore, blockchain holds the key to securing land tenure and property rights—a persistent challenge that keeps many BoP populations economically marginalized. By providing an immutable, tamper-proof ledger for transactions and rights, it can protect vulnerable populations against predatory practices, exploitation, and the arbitrary loss of assets (Mamun, 2025a).

To truly unlock the entrepreneurial potential of the BoP, a paradigm shift is necessary. This requires not only greater investment in frugal and social enterprises but also a concerted effort to adapt and integrate advanced, yet cost-effective, technologies like blockchain into localized solutions. Such an approach moves beyond traditional aid models to foster genuine, bottom-up economic empowerment.

Furthermore, a significant challenge is the pronounced **spatial gap** in policy execution. The governing principles and lofty ideals of the WSIS framework remain clustered at the high-level policy summits and ministerial declarations, often taking the form of aspirational communiqués and non-binding resolutions. In stark contrast, concrete, impactful actions designed to translate these principles into tangible societal benefits remain scattered, uncoordinated, and often peripheral to the populations most in need,

particularly those at the Base of the Pyramid (BoP) and in digitally underserved rural or marginalized urban areas.

This spatial disconnect between principle and practice carries a serious risk of systemic exclusion (Korsgaard et al., 2023). It creates a "policy paradox" where, despite having a globally recognized framework for digital inclusion, the lack of localized, tailored, and resourced implementation strategies means that the intended beneficiaries are systematically left out of the digital transformation process. The policy impact effectively decays with distance from the central governing body, resulting in a framework that is strong on rhetoric but weak on grassroots delivery and accountability. The failure to localize, fund, and enforce action-oriented strategies fundamentally undermines the WSIS goal of building a truly inclusive Information Society.

Collectively, these glaring gaps underscore a profound, unmet need within the core WSIS ideations: the necessity for direct, sustainable **market and enterprise connectivity**. The existing model often treats digitally marginalized populations as passive recipients of aid—consumers of subsidized services or beneficiaries of top-down digital literacy programs. This approach, while well-intentioned, fails to recognize the inherent economic potential and entrepreneurial spirit within these communities. Without robust mechanisms designed to bridge the BoP directly into global value chains (GVCs) and digital enterprise ecosystems, the current framework will continue to restrict the transition of these populations from passive beneficiaries of digital aid to active, empowered, and self-sustaining global economic participants.

Specifically, the WSIS framework must transition its focus from merely connecting individuals to the *internet* to connecting them to the *digital economy*. This requires:

1. **Investment in Localized Digital Infrastructure:** Moving beyond high-level national fibre backbones to supporting community-owned, last-mile connectivity and resilient local power solutions.
2. **Facilitating Digital Entrepreneurship:** Providing access to microfinance, digital business training, and platforms that bypass traditional market gatekeepers, enabling local enterprises to trade goods and services globally.
3. **Integrating BoP into GVCs:** Creating policies and incentives that encourage multinational corporations to source products, services, and digital labor directly from digitally-enabled marginalized communities.

The upcoming WSIS+20 review, therefore, must move beyond mere approximation of success and abstract commitments. It must commit to enforceable, targeted, and BoP-centric integration strategies. This means setting clear, measurable, and time-bound goals for economic inclusion, allocating dedicated financial and technical resources, and establishing robust accountability mechanisms to track the translation of high-level principles into local, transformative economic impact. The future relevance and moral legitimacy of the WSIS process hinge on its ability to forge a genuine, sustainable link between policy aspiration and economic reality for the world's

most excluded populations.

8. Propositions for Bridging Aspirations and Approximations

Harmonizing WSIS+20 with the Base of the Pyramid (BoP) Agenda: Enhanced Propositions for an Inclusive Information Society

To ensure that the outcomes of the WSIS+20 review meaningfully contribute to global digital inclusion and poverty alleviation, it is essential to harmonize the Information Society principles with the specific needs and entrepreneurial potential of the Base of the Pyramid (BoP) populations. This requires a shift towards BoP-centric digital development strategies, underpinned by robust policy frameworks. The following enhanced propositions are designed to foster agency, economic franchise, and sustainable connectivity within BoP communities, as envisioned in contemporary research (Mamun, 2025b).

1. Hybrid Finance Integration for Enhanced Capital Access

- **Proposition:** Adopt innovative financial models that effectively blend the grassroots reach of traditional microfinance with the efficiency, security, and transparency of decentralized technologies like blockchain. This hybrid approach aims to dismantle the structural barriers that prevent BoP entrepreneurs from accessing formal capital markets and financial services.
- **Elaboration:** The integration should focus on creating digital identities and verifiable transaction histories for the unbanked, enabling them to build credit scores and secure smaller, flexible loans. Blockchain-based smart contracts can reduce intermediaries, lower transaction costs, and ensure higher accountability for both lenders and borrowers.
- **Policy Recommendation:** Governments must actively incentivize the development and adoption of digital finance platforms through targeted tax breaks, regulatory sandboxes for fintech innovations serving the BoP, and grants for pilot projects. Furthermore, international bodies, particularly the United Nations and its agencies, must play a critical role in facilitating the development of global standards for interoperability, consumer protection, and transparency in these digital financial ecosystems. This is crucial to prevent digital exclusion and predatory lending practices.

2. Establishment of Connectivity and Enterprise Hubs

- **Proposition:** Establish physical and virtual connectivity hubs that serve as

multipurpose centers for market linkage, skill development, and digital service access, thereby allowing BoP enterprises to bypass traditional infrastructural and informational barriers.

- **Elaboration:** These hubs should offer more than just Wi-Fi; they must provide shared digital tools (e.g., 3D printers, computing clusters), business training, and direct access to e-commerce platforms and supply chains. They function as accelerators for local economic activities, transforming passive consumers into active producers and innovators in the digital economy.
- **Policy Recommendation:** A robust model of Public-Private Partnerships (PPPs) is necessary to fund the establishment and maintenance of these hubs, leveraging private sector expertise in technology and public sector commitment to universal access. Crucially, multilateral agreements must be put in place to guarantee data sovereignty for BoP users and local businesses, ensuring that data generated within the hubs benefits the local community. Furthermore, governments must mandate affordability subsidies for digital services consumed within the hubs, guaranteeing that low income is not a barrier to accessing essential digital resources.

3. Promotion of Frugal Innovation Frameworks

- **Proposition:** Systematically embed the principles of frugal innovation—creating high-value, cost-effective, and resource-efficient solutions under resource constraints—within all WSIS action lines. This emphasis must prioritize human autonomy, ensuring that technology serves the user and context, rather than dominating it.
- **Elaboration:** Frugal innovation is not simply about doing more with less; it's a design philosophy that champions resilience, local manufacturing, and user-led adaptation. It involves developing scalable, maintainable technologies that are appropriate for the specific infrastructure, climatic, and social contexts of BoP communities, focusing on repairability and local knowledge integration.
- **Policy Recommendation:** The development of global guidelines for Frugal Technology Research & Development (R&D) is paramount. This should be supported by dedicated international grant mechanisms for BoP-led pilots and grassroots technology development. A key policy lever is the establishment of intellectual property (IP) flexibilities, such as compulsory licensing or tiered pricing for essential frugal technologies, specifically to encourage their rapid adaptation, replication, and diffusion in developing contexts.

These integrated propositions are central to achieving a truly BoP-centric Information Society. By focusing on practical, sustainable implementation strategies that strengthen market access, enterprise connectivity, and financial inclusion, the WSIS+20 process can effectively foster the agency and economic franchise of the world's most vulnerable populations.

9. The Birth of Fluid Organizations: A Next Step in Addressing Governance Issues

The upcoming WSIS+20 review and its engagement with the ever-accelerating pace of digital transformation necessitate a fundamental shift in global governance paradigms. The concept of "fluid organizations" emerges as a crucial and promising architectural response to these complex, evolving digital challenges, particularly addressing issues of structural rigidity, inertia in decision-making, and the imperative for truly inclusive, multi-stakeholder participation.

Fluid organizations draw their theoretical strength from two key conceptual frameworks: Zygmunt Bauman's notion of **liquid modernity** (Bauman, 2000), which describes a society where socio-economic structures are no longer fixed but constantly changing, and the principles of **adaptive governance** (Cosens et al., 2017), which emphasize the need for systems to learn and adjust in response to environmental feedback.

In the context of digital governance, a fluid organization is defined not by a static, hierarchical chart, but as a **flexible, decentralized, and dynamic structure**. They prioritize **agility, continuous collaboration, and real-time responsiveness** over the slow, often bureaucratic processes inherent in traditional, rigid hierarchies. They represent a fundamental shift from governance *of* technology to governance *with* technology.

The integration of technology is not merely an external tool but a core component of the organizational design. Fluid organizations are characterized by:

1. **Dynamic Human-AI Integration:** They operate as dynamic ecosystems where human stakeholders (governments, private sector, civil society, technical community) and sophisticated **AI agents** are integrated. This symbiosis enables unprecedented levels of data analysis, predictive modeling for policy impacts, and automated, trust-based mechanisms for complex decision-making and transaction management (Botsman, 2017; de Reuver et al., 2023).
2. **Trust-Based Scalability:** By leveraging technologies like blockchain and distributed ledger systems, fluidity fosters inherent **trust** through transparency and immutability, allowing organizations to scale horizontally, involving diverse stakeholders without the need for centralized intermediaries or lengthy vetting processes. This contrasts sharply with legacy systems often burdened by centralized control and lack of accountability.
3. **Real-Time Policy Response:** The inherent agility allows governance mechanisms to adapt at the speed of technological evolution. Instead of relying on multi-year policy cycles, fluid organizations can implement **micro-policies** or regulatory sandboxes that are continuously reviewed and adjusted based on real-time feedback and performance metrics.

Addressing WSIS Implementation Challenges

The fluid organization model directly addresses key limitations identified in the original WSIS Geneva and Tunis outcomes by facilitating true multi-stakeholder fluidity:

- **Bridging the Market Divide (BoP Focus):** For markets at the Base of the Pyramid (BoP) and underserved regions, fluid organizations offer a mechanism to bypass traditional infrastructural and regulatory barriers. They can manifest as **adaptive digital networks** where micro, small, and medium enterprises (MSMEs) and local communities self-organize around digital platforms. This enhances market connectivity, democratizes access to global value chains, and fosters local economic resilience (Lee et al., 2022).
- **Enabling Regulatory Symbiosis:** Policy-making for fluid organizations requires promoting **hybrid legal and regulatory frameworks**. This involves moving beyond state-centric regulation to acknowledge and support decentralized autonomous organizations (DAOs) and other community-governed entities. By embracing agile policy-making and fostering legal environments that recognize the legitimacy of decentralized decision-making (Pazaitis et al., 2017), governance can achieve true symbiosis with technological evolution, ensuring that regulation fosters innovation rather than stifling it.

By decisively embracing this paradigm of fluidity, WSIS+20 can evolve significantly from its 2005 foundations. The result would be a resilient, self-optimizing framework capable of resolving persistent global digital divides and building genuinely equitable and inclusive digital futures.

10. Conclusion

Revision 2 of the World Summit on the Information Society (WSIS+20): A Call for Inclusive and Equitable Digital Development

The second Revision of the WSIS+20 process presents a robust and profoundly inspiring framework, articulating ambitious aspirations essential for realizing a truly inclusive, people-centric Information Society. This framework wisely builds upon the foundational principles established by the World Summit on the Information Society, yet recognizes the necessity for renewed and intensified action.

While the conceptual underpinnings are inherently sound, the persistent and widening digital divide—a critical barrier to achieving these goals—demands more than conventional approaches. Specifically, bridging this chasm for the most vulnerable, marginalized, and underserved populations globally necessitates a profound and

strategic recalibration of focus. The current programmatic approximations and initiatives, while providing valuable contributions, must be substantially strengthened and re-oriented. This requires a deliberate, focused, and systematic emphasis on addressing the unique challenges and opportunities presented by the **Base of the Pyramid (BoP)**—the largest, yet poorest, socio-economic group.

A strategic shift towards the BoP is paramount. It implies moving beyond simple connectivity metrics to target holistic digital inclusion, ensuring that technology access translates into genuine empowerment, socio-economic development, and the fulfillment of fundamental human rights. This expanded focus must encompass:

1. **Affordability and Accessibility:** Prioritizing low-cost, context-specific solutions for infrastructure, devices, and data plans, particularly in remote and rural areas.
2. **Digital Literacy and Capacity Building:** Developing targeted, vernacular-language training programs tailored to the needs of diverse BoP communities, focusing on practical skills for livelihood improvement, health, and education.
3. **Creation of Relevant Local Content:** Stimulating the development of digitally accessible content and services that are culturally appropriate and directly address the immediate needs and challenges faced by BoP communities (e.g., agricultural information, localized healthcare services, financial inclusion tools).
4. **Multi-Stakeholder Partnerships:** Fostering innovative partnerships between governments, the private sector (including local entrepreneurs), civil society, and international organizations to drive sustainable and scalable interventions that reach the last mile.

By aggressively strengthening the current framework with this deliberate BoP-centric strategy, the WSIS+20 Revision can transform its ambitious aspirations into tangible realities, ensuring that no one is left behind in the journey toward a truly equitable Information Society.

Strategic Imperatives for BoP Focus and Frugal Innovation:

To ensure that the benefits of digital transformation reach all segments of society, the framework must integrate robust mechanisms that promote:

1. **Expanded Frugal Innovations:** A concerted effort is required to champion the development and scaling of "good-enough" and ultra-affordable digital solutions. This includes low-cost hardware, energy-efficient applications, and modular services designed specifically for resource-constrained environments, moving beyond merely adapting high-income country models.
2. **Entrepreneurship Case Studies and Ecosystem Development:** The document should foreground successful, replicable case studies of digital entrepreneurship within developing economies. This serves to inspire local

innovators and, crucially, to identify the policy and investment levers that facilitate the growth of micro, small, and medium-sized enterprises (MSMEs) leveraging digital tools for market access.

3. **Policy-Enhanced Proposals for Connectivity and Market Access:** Aspirations must be translated into concrete, policy-enhanced proposals that prioritize fundamental market and enterprise connectivity. This involves regulatory reforms that lower the cost of broadband deployment, incentivize last-mile infrastructure build-out, and foster open access networks. The goal is to view connectivity not merely as a social service, but as a critical economic utility for enterprise growth.

Reconciling Global Perspectives and Advancing Digital Governance:

A core challenge and opportunity for WSIS+20 lies in successfully reconciling the often divergent perspectives of the developed and developing worlds regarding digital priorities and governance structures. By achieving this reconciliation, the international community can firmly position comprehensive **digital governance** as a powerful and equitable engine for global growth.

This advanced form of governance should be characterized by:

- **Fluid Organizations and Multi-Stakeholder Agility:** Governance structures must evolve into more **fluid organizations**, capable of rapid adaptation to technological change and emerging digital challenges. This requires strengthening the multi-stakeholder model—Involving governments, the private sector, civil society, and technical communities—to ensure policy decisions are inclusive, informed, and legitimate.
- **Equitable Growth Engine:** Digital governance must be explicitly designed to combat inequalities, ensuring that standards, regulations, and investment strategies actively foster economic opportunities in historically marginalized regions. This includes addressing issues of data sovereignty, cross-border data flow, and digital taxation in a manner that benefits developing nations.

By embracing these expanded priorities, Revision 2 of WSIS+20 can move beyond mere aspiration to establish a pragmatic, action-oriented roadmap for a truly inclusive, equitable, and sustainable global Information Society.

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