kerja sama jerman
DEUTSCHE ZUSAMMENARBEIT

diimplementasikan oleh:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Bekerjasama dengan:
BAPPENAS
Kementerian Perencanaan Pembangunan Nasional/
Badan Perencanaan Pembangunan Nasional

Digital Innovation Hub

RESEARCH REPORT
DIGITAL TRANSFORMATION CENTER INDONESIA

DIGITAL HUB NETWORK GUIDELINE

Digital Transformation Center Indonesia
2024

DIGITAL HUB NETWORK GUIDELINE

Project Digital Transformation Center (DTC) and Make-IT Indonesia
On behalf of GIZ Indonesia and Bappenas

Digital Hub Network Guideline
Published by Digital Transformation Center (DTC) Project
and Make-IT Indonesia

kerja sama jerman
DEUTSCHE ZUSAMMENARBEIT

diimplementasikan oleh:
giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Bekerjasama dengan:
BAPPENAS
Kementerian Perencanaan Pembangunan Nasional/
Badan Perencanaan Pembangunan Nasional

Published in 2024
Printed in Indonesia

Supported by:
Habibie Innovation Incubator

Imprints
Digital Hub Network Guideline

Introduction to DTC and Make-IT Program
On behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH implements the Global Program for Digital Transformation to develop innovative BMZ flagship projects on a global scale. Under the flagship activity "Digital Transformation", digital ecosystems in partner countries are supported. The Digital Transformation Center (DTC) and Make-IT Indonesia are part of this global initiative and support Indonesia's national digital transformation, implemented together with the Ministry of National Development Planning/Bappenas. The overall goal of the project is to narrow the digital divide, reduce disparities, and provide equal opportunities to all groups of society to benefit from the prospects of digitalization while enabling them to independently assess the risks.

Author
Muchammad Ikrar Athalla Putra
Jeva Neutrony
Osvaldo Lievira

Editor
Junianto M
Daniel Adrian Tumewu

Layout, Cover, and Graphic Design
Annisa Putri Sadanoer
Dimas Bimantara

Acknowledgements
We express our gratitude to all colleagues from DTC and Make-IT Indonesia who have compiled and completed this book, especially to the Directorate of Electricity, Telecommunications and Informatics, Ministry of National Development Planning/Bappenas:

- Taufiq Hidayat Putra, Director of Electricity, Telecommunications and Informatics
- Andianto Haryoko, ICT Ecosystem and Utilization Coordinator
- Rizki Sammyho Putera, ICT Infrastructure Coordinator
- Andreas Bondan Satriadi, First Expert Planner
- Natasha Frides, Junior Planner
- Ferdy Nur Alamsyah, Staff Planner
- Akhmad Rijananto Pamungkas, Staff Planner
- Adiyatma Aria Wardana, Staff Planner

On Behalf of
German Federal Ministry for Economic Cooperation and Development (BMZ), through Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

FOREWORD

With praise and gratitude to God Almighty, we present the “Digital Hub Network Guidelines” document which is part of the Indonesian Government's great efforts to encourage digital transformation as one of the keys to achieving Indonesia's vision of becoming one of the five countries with the highest GDP in the world.

Along with the rapid development of technology and global digitalization, the mastery of digital technology has become crucial for every nation, including Indonesia. Digital transformation is not just about technology adoption, but also about fundamental changes in the way we work, communicate, and run various sectors of life. Through a holistic and integrated digital transformation policy, we are committed to creating an ecosystem that supports innovation, collaboration and digital skills development for all levels of society.

The Government of Indonesia, through the Ministry of National Development Planning (Bappenas) in collaboration with GIZ, is working to develop the Digital Hub Network concept. This initiative aims to make the most of digital potential and strengthen supporting infrastructure in order to achieve digital transformation that not only contributes to sustainable economic growth, but also supports a green, low-carbon economy.

The Digital Hub Network is one of the components in Indonesia's digital transformation grand strategy. Through this guideline, we hope to provide a clear and comprehensive picture for various stakeholders, including local governments, the private sector, and the wider community, to jointly achieve this vision. We believe that with strong collaboration and synergy between all parties, Indonesia can become a leading player in the global digital economy and achieve an inclusive and sustainable economic growth.

Finally, we would like to thank all parties who have contributed to the preparation of this document. We hope that this “Digital Hub Network Guidelines” can be a useful and inspiring guide for everyone in the journey towards Indonesia's successful and highly competitive digital transformation.

July 2024

Taufiq Hidayat Putra
Director of Electricity,
Telecommunications, and Informatics
Ministry of National Development
Planning (Bappenas)

Table of Contents

The biggest part of our digital transformation is changing the way we think.

Simeon Prestone Bupa

Executive Summary

VALUE STATEMENT

Overcome Digital Divides by Strengthening Local Digital Ecosystems

Through the support of digital entrepreneurship programs and physical co-working spaces, the digital hub will support the development of digital entrepreneurship that focuses on solutions to improve people's livelihood and address the digital divide in Indonesia.

DOCUMENT AIM

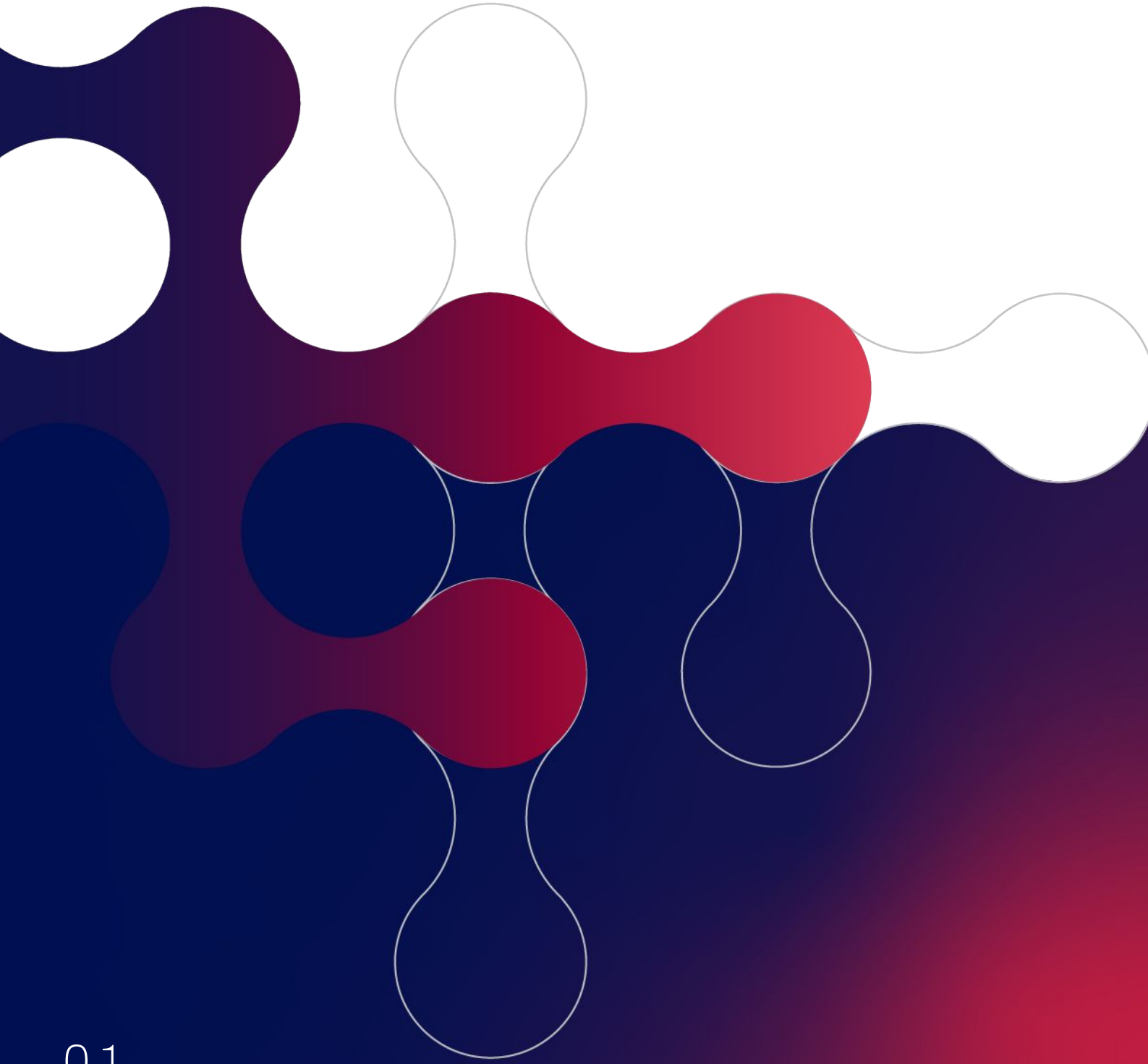
This document outlines a comprehensive conceptualization of digital hubs, initiated by the Ministry of National Development Planning (Kementerian PPN/Bappenas) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). The aim is to provide readers with valuable insights and recommendations for decision-making regarding the early stages of building a digital hub network in Indonesia.

DOCUMENT OUTLINE

Section 1 introduces the national directives for digital transformation efforts, Digital Transformation Center Indonesia project, and the need for a digital hub in Indonesia. Section 2 provides a stakeholder analysis, digital hub opportunities for stakeholders, and an analysis of existing digital hub business models for private industry, government, and state-owned enterprises. The concept and criteria of a digital hub are defined and explained in section 3. Section 4 describes the personas and needs of the target users. Section 5 outlines the recommended modules of key services that can be delivered in the digital hub. Conclusions and a set of recommendations are outlined in Section 6.

KEY TAKEAWAYS

- Based on an initial study conducted by Digital Transformation Center Indonesia, the need for digital hub structures across Indonesia has been identified.
- Digital hubs are intended as centers of collaboration and innovation for local digital ecosystems, providing innovation space, technology infrastructure, and improved education and training to keep communities competitive in the digital era.
- There are 3 key elements in a digital hub concept, namely the ecosystem, physical facilities and spaces (hardware), and support program services (software). This document outlines the activity modules that can be adopted in a digital hub.
- The digital hub concept can be utilized by government partners, SOEs, and ROEs to utilize unproductive assets to build and run active community spaces.
- The main needs identified by target users for a digital hub include networking, robust mentoring, access to markets, government support, funding, space & safety, and digital talents.
- This document outlines 5 service modules that can be implemented in the development of digital hubs in Indonesia, namely the SME innovation incubator program, digital literacy training, networking events, demo & showcase, and digital sandbox.



0.1

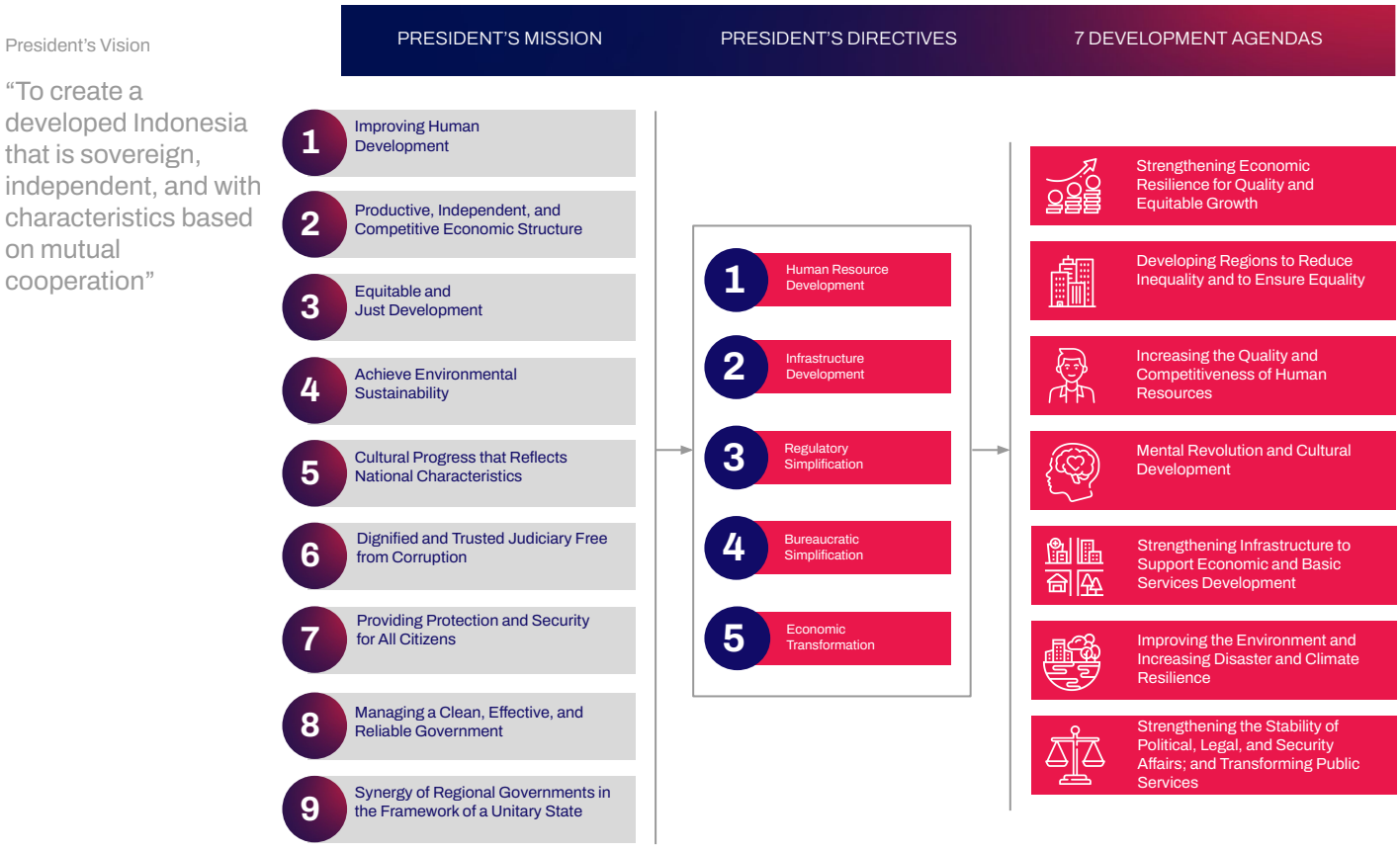
Background

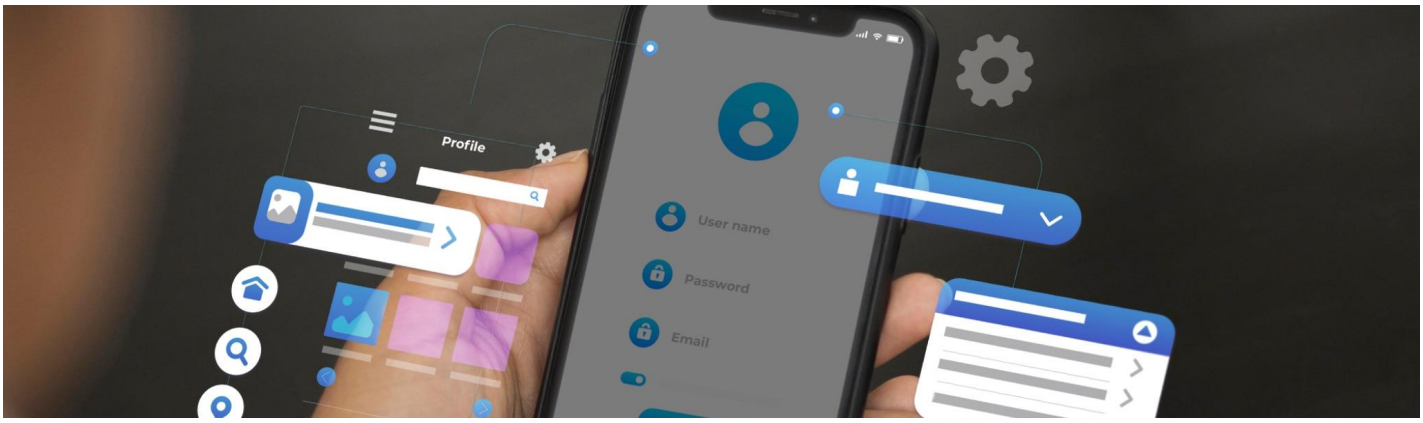
Background

NATIONAL SCALE DIGITAL TRANSFORMATION DIRECTIVE

The 2020-2024 National Medium-Term Development Plan (RPJMN) is a strategic step in the roadmap of the 2005-2025 National Long-Term Development Plan (RPJPN). The main objective of the RPJMN is to achieve a sovereign, advanced, just and prosperous Indonesia by accelerating development in various sectors.

In accordance with the national direction, the main focus is to form a nation that is sovereign, advanced, just, and prosperous. This is characterized by the efforts of the Republic of Indonesia in building a solid economic structure based on competitive advantages in various regions. All of these initiatives provide a solid foundation for Indonesia's Vision 2045 through "Indonesia Maju".





With a key focus on digital transformation as a driver of economic growth and quality of life, the Government is targeting the development of digital infrastructure across the Republic of Indonesia through the construction of digital hubs to drive innovation, and improved education and training to keep people competitive in the digital era.

In addition, efforts to transform public services to digital platforms, strong support for startups and Micro, Small and Medium Enterprises (MSMEs), and improved cybersecurity are integral parts of the plan. Through these strategies, Indonesia aims to create a sustainable economy, open up job opportunities in the digital sector, and improve people's welfare through the use of technology.

DIGITAL TRANSFORMATION CENTER INDONESIA

The development of digital technology in Indonesia, particularly in Jakarta, has experienced rapid growth in recent years. However, there are still major challenges in ensuring that the benefits of these developments reach all levels of society, including marginalized groups and rural residents. In conjunction with the Ministry of National Development Planning of the Republic of Indonesia’s plan to create Indonesia 4.0, the Government will utilize the digital economy to increase upstream-downstream efficiency and contribute to the value-added of industries being run in the country.

To meet this challenge, Indonesia and Germany as global partners are determined to work together in realizing a sustainable, resilient, and climate-friendly digital transformation. Therefore, on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in cooperation with the Ministry of National Development Planning/BAPPENAS, the Directorate of Electricity, Telecommunications and Informatics is implementing the Digital Transformation Center (DTC) Indonesia project with the aim of supporting digital transformation in Indonesia.

Digital Transformation Center Indonesia is an initiative that focuses on two main areas, namely "digital entrepreneurship" and "e-government". The initiative aims to develop a robust digital ecosystem in Indonesia and ensure that digitalization and innovation can be used as tools to address economic and social issues across the country.

Some of the proposed priorities in building a digital ecosystem in Indonesia through the Digital Transformation Center Indonesia include:

1. Initiate dialog and cooperation with partners in digital transformation: This includes working with the private sector, government agencies, and civil society organizations to understand the needs and opportunities in developing the digital ecosystem.

2. Advancing digital approaches and skills development: This means improving people's understanding and skills in adopting digital technologies. Digital training and education can help communities to more effectively benefit from digital transformation.

3. Indonesia-Germany development cooperation: International cooperation can strengthen Indonesia's digital transformation efforts by gaining insights, support and resources from international partners.

All of this aims to ensure that digital transformation in Indonesia not only positively impacts metropolitan areas but also equitably across the country, so that all Indonesians can access the benefits of a thriving digital economy and continuous technological innovation by involving the utilization of digital technologies, supporting facilities, and strengthening the ecosystem of digital entrepreneurship and digital innovation.

DIGITAL TRANSFORMATION IN DIGITAL ENTREPRENEURSHIP

Government support in digital transformation efforts is a strategic step that is now a must, especially aimed at digital entrepreneurs, both those operating at the digital startup scale and micro, small and medium enterprises (MSMEs).

First, digital transformation has the potential to increase the country's economic growth. Digital entrepreneurs, especially at the scale of digital startups and MSMEs, are the main driving force in creating jobs and increasing economic contribution. By providing support in the form of policies, incentives, and adequate digital infrastructure, the government can create a conducive environment for digital business growth.

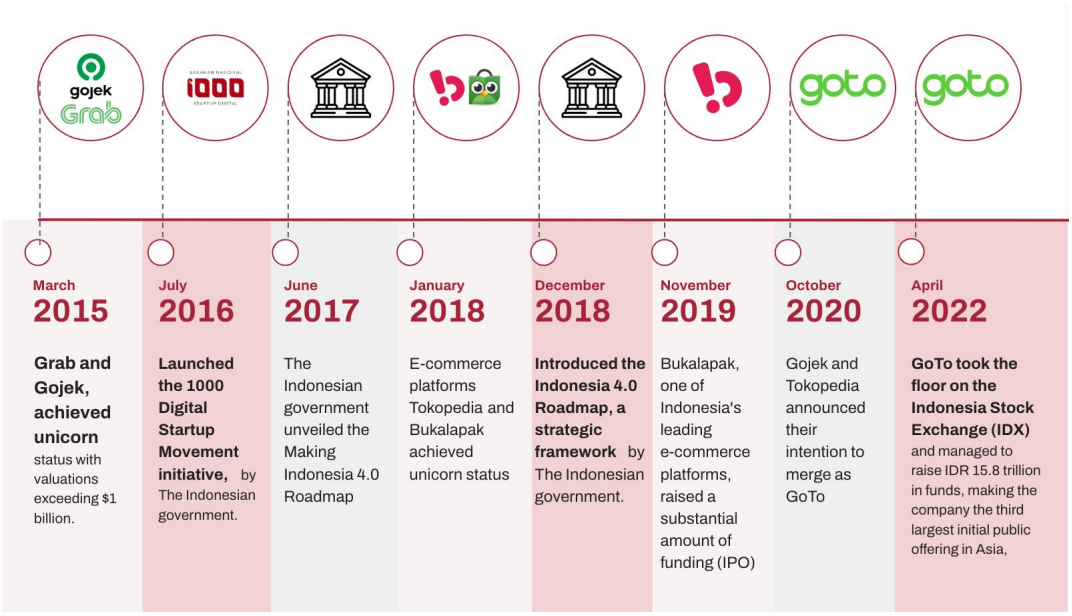
In addition, the Government needs to support digital transformation to digital entrepreneurs to improve national competitiveness. In the era of globalization, countries compete to attract investment and develop a strong digital economy. By encouraging the development of an innovative ecosystem of digital startups and MSMEs, the government can help the country stay relevant in an increasingly connected global economy.

Furthermore, digital transformation brings efficiency benefits to the government itself. The government needs to use digital technology to improve public services, reduce bureaucracy, and optimize spending. This can lead to budget savings and increased efficiency in government operations. In addition, digital transformation can help the government in its inclusive development efforts. By providing greater opportunities to startup entrepreneurs and MSMEs, the government can help address economic and social disparities, especially in rural areas. Digitalization can enable better access to markets and resources that were previously hard to reach.

THE GROWTH OF INDONESIA'S STARTUP LANDSCAPE

The synergy between digital entrepreneurship, business, and government initiatives has been an important instrument in shaping the growth of Indonesia's startup landscape. Businesses have demonstrated their contribution to Indonesia's economic potential, while government programs have acted as catalysts that actively encourage digital entrepreneurship, promote innovation, and spur the progress of the digital economy in Indonesia.

In recent years, the remarkable expansion of Indonesia's startup ecosystem has attracted global attention. For example, Jakarta has gained notoriety by being ranked third in Startup Genome's Emerging Ecosystems 2021 report. Jakarta's combined startup valuation reached $34 billion, demonstrating a thriving digital entrepreneurship environment that contributes significantly to Indonesia's overall startup landscape.



The country's e-commerce market has shown its strength, generating an impressive $44 billion Gross Merchandise Value (GMV) in 2020. According to reports from Google, Temasek Holdings, and Bain & Co, Indonesia's digital economy reached around $70 billion GMV in 2021, reaffirming its position as a key player in the digital landscape among Southeast Asian countries, as a leader in terms of internet penetration and availability of online connectivity.

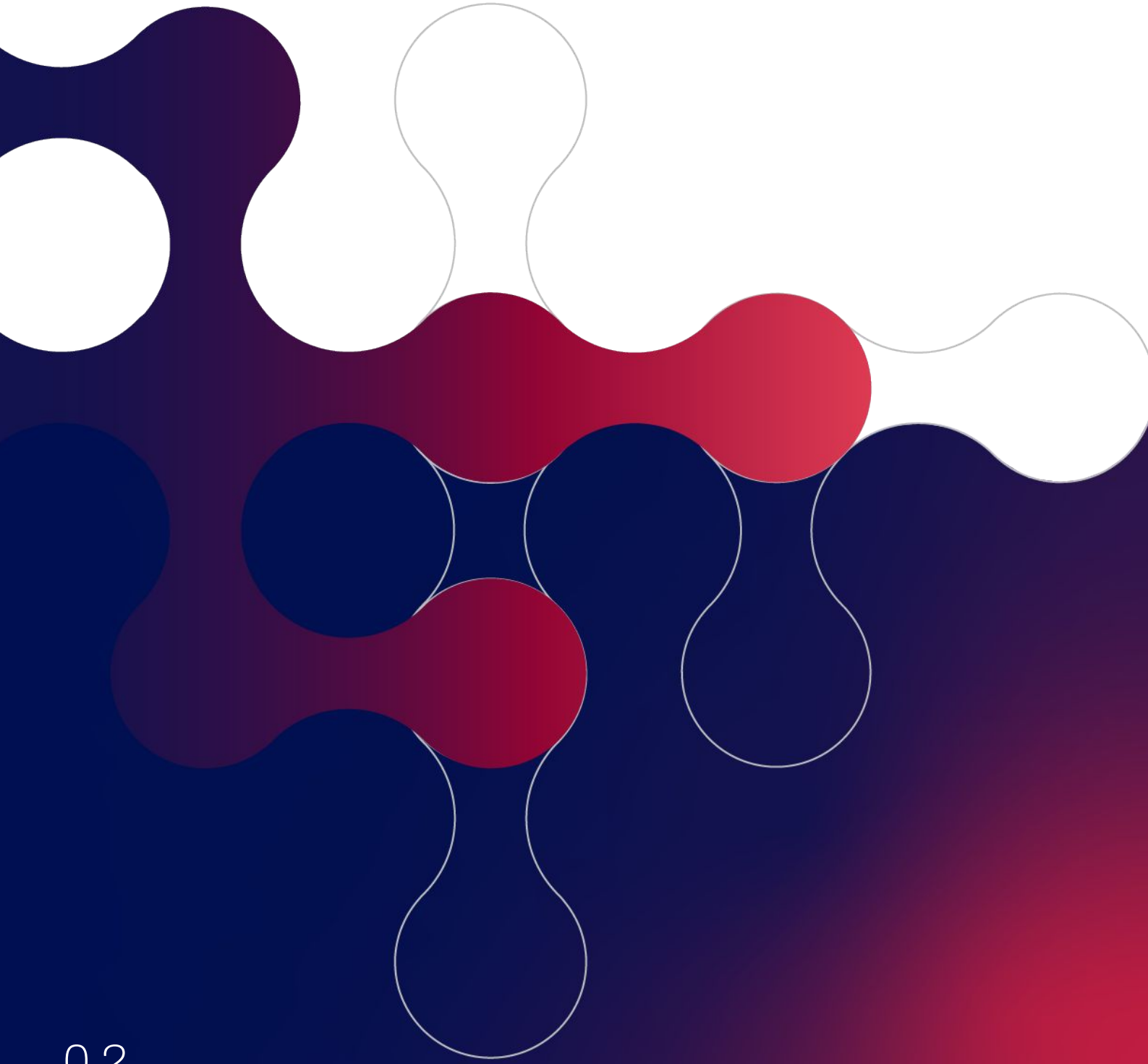
THE ROLE OF DIGITAL HUBS TO DRIVE DIGITAL ECONOMY GROWTH

Based on an initial study conducted by Digital Transformation Center Indonesia, the need for digital hub structures across Indonesia has been identified. These digital hubs are expected to serve as centers of collaboration and innovation for local digital ecosystems across Indonesia.

First, the digital hub as a center for collaboration and innovation is expected to bring together digital entrepreneurs, industry players, investors and other stakeholders in one place. This creates a supportive environment for the exchange of ideas, knowledge and business opportunities, which is a key catalyst for innovation and growth.

In addition, digital hubs can provide essential technological infrastructure and support facilities for digital entrepreneurs with limited resources. These include access to high-speed internet, co-working spaces, training centers, and digital libraries. These help create an environment conducive to the development of innovative technology and business solutions.

Furthermore, digital hubs can serve as training and education centers. This can help entrepreneurs, especially those who are just starting out or operating conventionally. With a better understanding of the potential of digital technology, digital entrepreneurs will be better able to take advantage of digital transformation.



0.2

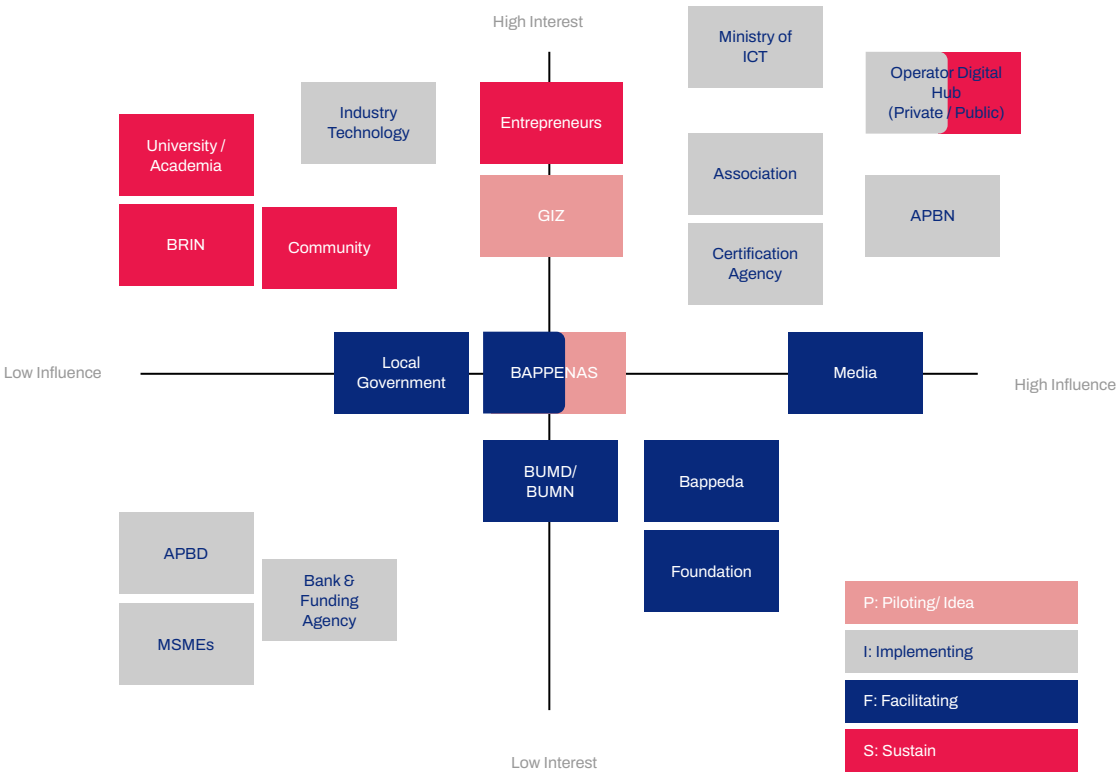
Stakeholder Analysis

Stakeholder Analysis

STAKEHOLDER IDENTIFICATION

Based on the results of the ideation workshop held between the Ministry of PPN/BAPPENAS, the Ministry of Communication and Information Technology (Kominfo), and GIZ, possible stakeholders involved in the program to develop the structure of the digital hub network in Indonesia have been identified.

These stakeholders can be categorized into 4 categories, namely **P** (Piloting/Idea) as the party that initiates the project, **I** (Implementing) as the party that can be involved in project implementation, **F** (Facilitating) as the party that helps the project sustainability, and **S** (Sustain) as the party that can keep the project sustainable and provide benefits to more target users.



In accordance with the categories, these are the stakeholders that can be involved in the digital hub network project, including:

P (Piloting/Idea):

1 Ministry of National Development Planning or National Development Planning Agency (Kementerian PPN/Bappenas): A government agency tasked with organizing and planning government affairs in the field of national development planning to assist the President in organizing state governance. BAPPENAS initiated the digital hub network project to encourage digital transformation in accordance with the direction of the RPJMN 2020-2024 and the plan to create Indonesia 4.0.

2 The German Agency for International Cooperation (GIZ) which supports the German government to achieve its national interests in international development cooperation. GIZ initiated the digital hub network project through the Digital Transformation Center Indonesia, focusing on two main areas, namely digital entrepreneurship and e-government.

I (Implementing):

1 Digital Hub Operator: An entity or organization providing management and operational services for digital hubs or incubators. Digital hub operators can be government entities, universities, private companies, or non-profit organizations committed to supporting digital entrepreneurs and the startup ecosystem.

2 Ministry of Communication and Information Technology (Kemenkominfo): Kemenkominfo is responsible for developing policies and regulations which underscore the development of the digital ecosystem in Indonesia as well as ensuring the availability of reliable digital infrastructure, including digital hubs. Kominfo executes programs to support up-skilling for startups such as the National Movement of 1000 Startup Digital, Startup Studio, and Beta School.

3 Technology Industry: Industries focusing on the development and creation of technology, such as hardware, software, and related services. In the digital hub project, this industry can contribute to the provision of services needed through use cases for solutions to address specific needs.

4 Association: An organization formed by a group or groups of individuals or organizations with a common goal or interest. These associations can be engaged in various fields, such as technology, business, economics, and others that build networks with various partners and provide support for the initiatives undertaken.

5 APBN (State Revenue and Expenditure Budget): A budget showcasing the estimated revenue and expenditure of the Indonesian government in a fiscal year in order to be allocated in the preparation of budget funds so that the digital hub network project can be implemented and developed in Indonesia.

6 APBD (Regional Revenue and Expenditure Budget): A budget that shows the estimated revenue and expenditure of the local government (Province, City, District) in a fiscal year in order to be allocated in the preparation of budget funds so that the digital hub project can be implemented and developed in various regions in Indonesia.

7 Certification Body: An organization that provides certifications for a product, a service, or an individual meeting certain standards. The existence of certification bodies provides support for quality and safety standards, increasing user confidence, as well as encouraging innovation and transparency for the products or solutions offered.

8 Financial Institutions: Institutions operating within the banking industry, including commercial banks, development banks, and other financial institutions that provide digital financial services, support secure digital transactions, facilitate funding for technological initiatives and digital innovation such as through funding options for operations and product upgrades.

9 MSMES: Micro, Small, and Medium Enterprises refers to small and medium sized enterprises that are the primary users of digital technologies to improve efficiency, market access, and product innovation, thereby strengthening their competitiveness and contribution to the digital economy.

F (*Facilitating*):

1 Ministry of National Development Planning or National Development Planning Agency (Kementerian PPN/Bappenas): A government agency tasked with organizing government affairs in the field of national development planning to assist the President in organizing state governance. Bappenas provides direction or designation for digital hub network activities to be implemented as national projects.

2 Local Government (Pemda): Governments under the central government governing and managing specific regions in Indonesia, such as a province or city. Local Governments can facilitate digital hubs through the provision of infrastructure, supporting regulations, and financing to encourage growth and collaboration among digital industry players in their working areas.

3 State Owned Enterprise (SOE): Companies owned and operated by the central government of Indonesia which are able to provide services, infrastructure, and capital to improve connectivity and access to economic growth in Indonesia.

4 Regional Owned Enterprise (ROE): Companies owned and operated by local governments in Indonesia that are able to provide resources, services, infrastructure, and capital to accelerate transformation at the local level.

5 Media: Platforms of communication used to disseminate information regarding the presence of the digital hub, raising public awareness of digital technology and innovation, along with promoting the collaboration and success stories in this project.

6 Foundation: A non-profit organization that operates independently of the government which is able to support social humanitarian issues, such as digital education, technology inclusion, and community empowerment through technology access and training.

S (*Sustain*):

1 University/Academy: Higher education institutions which are able to provide formal education, training, and research in various academic disciplines which can be long-term users of the digital hub as well as knowledge and research providers, enriching the contents of the digital hub with academic insights and the latest innovations from various fields of study.

2 BRIN (National Research and Innovation Agency): A government agency responsible for enhancing research and innovation in Indonesia that can be a long-term user of digital hubs, ensuring digital hubs can adapt to technological developments and community needs through continuous research and innovation.

3 Community: A group of individuals sharing a particular interest, background, location, or purpose is one of the main target users of a digital hub, along with building a collaborative network that strengthens and sustains the ecosystem of the digital hub.

4 Entrepreneur: A person running a business is one of the primary target users of a digital hub to create demand for services and make a sustainable economic contribution to the digital ecosystem.

Further details are provided in the **Supporting Document** which discusses the role and importance of each stakeholder such as:

- Specializations and services offered by each institution
- Portfolio or experience and influence relevant for the digital hub program
- Economic and social analysis of the objectives and role of institutions in the program.
- Benchmarking between existing digital hub networks in developing countries and other developed countries in Asia. The countries covered in the analysis include Thailand, Malaysia, Singapore, Saudi Arabia, and United Arab Emirates.

OPPORTUNITIES FROM DIGITAL HUB FOR GOVERNMENT AND SOE / ROE

The concept of building digital hubs can be utilized by government partners, SOEs, and ROEs in possession of unused assets by exploring active collaboration partners to build and run active community spaces.

- Asset Productivity :
  Unproductive assets, such as vacant buildings or land owned by government agencies, SOEs, or ROEs can be transformed into a significant source of revenue through the development of digital hubs. Digital hubs have the potential to attract startups, MSMEs, and other technology companies as users of the facilities, which in the long run can increase the revenue of governments, SOES, or ROEs. Digital hubs can be strategic locations to involve the private sector in technology and business projects along with supporting the development of digital hubs.

- Local Economic Growth and Digital Ecosystem:
  Digital hubs, which are targeted to be implemented in all regions of Indonesia as directed by the RPJMN 2020-2024, can be a driver of economic growth in the region. It can support local economic growth and reduce unemployment by creating new jobs, attracting investment, and increasing business activity around the digital hub. In addition, by investing in the development of digital hubs, the government, SOEs, and ROEs can strengthen the digital business ecosystem in their region by creating space for collaboration between startups, large enterprises, academia, and government.

- Digital Transformation:
  Digital hubs are intended as a platform to promote digital transformation in the region around the digital hub. Government agencies and SOEs can play a role in encouraging the adoption of digital technology and improving digital literacy in the community. In addition, digital hubs are also intended for MSME entrepreneurs and digital entrepreneurs to thrive through a number of supporting programs, resources, and necessary infrastructure. Digital hubs are an important opportunity for the government to play a major role in digital development, thus transitioning from a passive role to actively organizing and planning the development of Indonesia's digital market and infrastructure.

IDENTIFICATION OF EXISTING DIGITAL HUBS

In addition to utilizing assets that are not used by government agencies, SOEs and ROEs, digital hub networks can be built by involving existing hubs that have been actively operating. A comparative analysis of various existing hub operators in Jakarta and Bali was conducted to provide further understanding of the profiles and business models of various types of existing hubs that can serve as a reference for Indonesia's Digital Transformation Center.

1 **Impact Hub Jakarta - Social & Impact Co-Working Space**

About

Impact Hub Jakarta is a coworking space and innovation space that exists to support organizations and entrepreneurs in creating sustainable positive impact in Indonesia. As part of a large community of 24,000+ members in more than 100 cities around the world, Impact Hub provides services as an ecosystem supporter, community, and event organizer for high-quality workshops, programs, and multimedia content.

a **Detail**

- Address:
  18th Floor, The H Tower, Jalan H. R. Rasuna Said, Karet Kuningan, Jakarta Selatan, 12940, Indonesia
- Number of Floors: 1
- Net Size: 1,318 square meters
- Accessibility: 3 minutes walk from Transjakarta & LRT station
- Operating Schedule: Monday - Friday 09:00 - 18:00

b **Program**

- Cartier's Women Initiative: Supporting women entrepreneurs with impact on financial, social and human capital sectors
- Comblangin: Community building & convention on issues of Climate Action, Circular Economy, and Energy
- Accelerate2030: Curated support for SDGs-focused entrepreneurs

c **Services and Facilities**

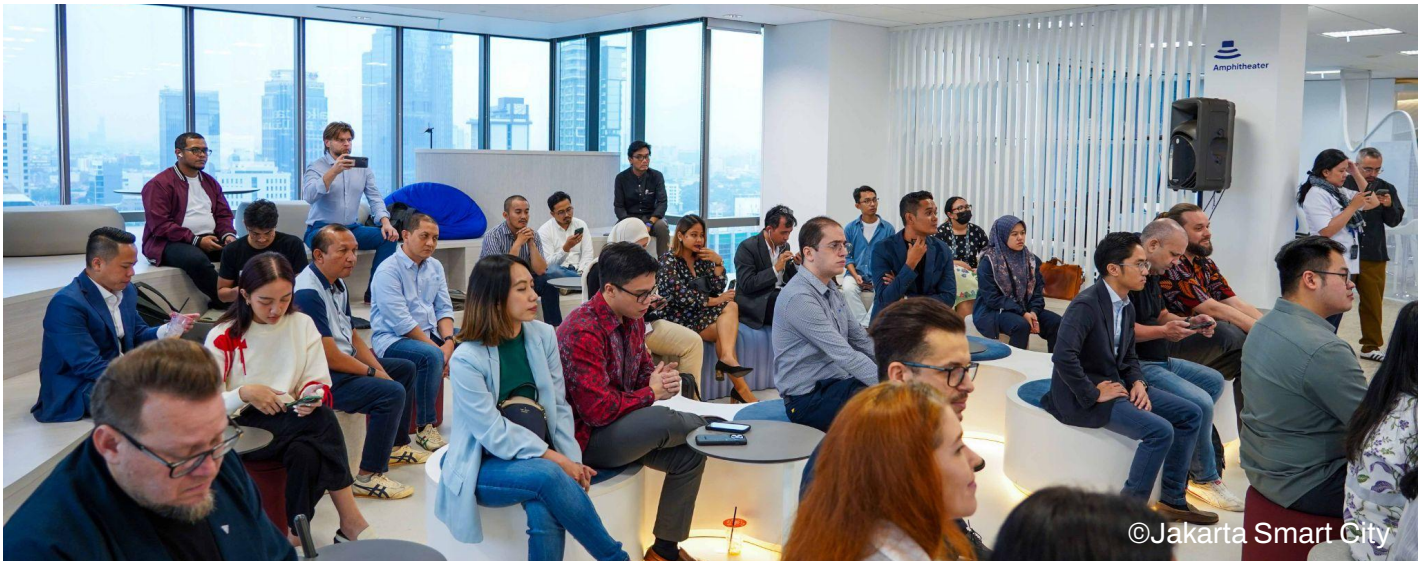
- Services:
  Flexi-Desk, flexible offices, virtual offices, private offices, meeting rooms, webinar studio, podcast studio, workshop space
- Facilities:
  High speed internet, phone booth, receptionist, pantry, printer

d **Tenants and Participants**

- Waste4Change
- Grovh
- Ayo Bermain Indonesia

STRENGTHS	WEAKNESSES
• Active community • Variety of programs to support various organizations and/or companies • Integrated with global hubs worldwide	• Activity costs are relatively expensive • Location inside a building

OPPORTUNITIES	THREATS
• A solid community network ensuring ease of program involvement • Many founders/entrepreneurs who have been connected before	• More interesting programs are offered by other hubs



2 **Jakarta Future City Hub - Government Innovation Center**

About

Future City Hub in Jakarta is a collaborative innovation space developed between the Provincial Government of DKI Jakarta and the City of Berlin to enable digital entrepreneurs and innovators along with government institutions, corporations, academia and communities to jointly drive smart city innovations to solve urban challenges in Jakarta.

a **Detail**

- Address: 23rd Floor, Jakarta Box Tower, Jalan Kebon Sirih No.48-50, RT.11/RW.2, Gambir, Daerah Khusus Ibukota Jakarta 10110, Indonesia
- Number of Floors: 1
- Net Size: 1,036 square meters
- Accessibility: 1 minute walk from Transjakarta station
- Operating Schedule: Monday - Friday

b **Program**

- Future City Accelerator: Digital entrepreneurship accelerator program to solve urban challenges while in close proximity to policy makers
- Multi-Stakeholder and Policy Dialogues: Dialogue with various stakeholders to voice their aspirations, focusing on smart cities and urban innovation

c **Services and Facilities**

- Services:
- Communal Area, Office Section, Event Area, Co-working Space, Prototype Corner, Knowledge Center, Mini Studio
- Facilities:
- Reception, Lounge, High Speed Wifi, Phone Booth, Private Pantry

d **Participants**

- Jakarta Smart City
- SoulParking
- Qiwii

STRENGTHS	WEAKNESSES
• Support from the government of DKI Jakarta and sister city Berlin • Easy access due to central location	• Only few programs have been implemented • Difficult bureaucratic flow of permits through the local government
OPPORTUNITIES	**THREATS**
• New space inaugurated allowing for plenty of cooperation opportunities • Start networking for joint collaboration	• Government involvement is too dominant

3 **Smesco Indonesia - SME Service Center**

About

Smesco Indonesia was established by the Cooperative and SME Marketing Services Agency (LLP-KUKM) of the Indonesian Ministry of Cooperatives and SMEs to provide promotion and marketing services for Indonesian SMEs. Smesco Indonesia currently houses products from 34 provinces across Indonesia.

a **Detail**

- Address:
- 1st & 2nd Floor, SME Tower, Jl. Gatot Subroto Kav.94 Pancoran, Jakarta Selatan, 12780, Indonesia
- Number of Floors: 2
- Net Size: -
- Accessibility: 1 minute walk from Transjakarta station
- Operating Schedule: Monday - Friday 09:00 - 21:00

b **Program**

- Sparc Trade: Trading platform to match supply and demand
- Kampus Sparc: Vocational training to increase the capacity and capability of SMEs in supporting the SMEs upscale movement.
- Indonesia Digital Meetup: Conference on Digital Marketing, SaaS, Legality

c **Services & Facilities**

- Services:
  Showroom & exhibition, coworking area, creative space, office space
- Facilities:
  Multipurpose Hall, Cafe Restaurant, Banking Service, Smesco Lab

d **Participants**

- Gudang Rempah
- Kreasa
- Kemala

STRENGTHS	WEAKNESSES
• Support from the Ministry of Cooperatives & SMEs • MSME free development programs are open to the public • Spacious space and stand-alone building, other locations are in Smesco Hub Timur	• The existence of a display area for tenants from various parts of Indonesia is lacking.

OPPORTUNITIES	THREATS
• Access for local UMKM aiming to promote their products • Collaboration with various organizations to increase the capacity of MSME owners	• Competition between local, traditional, and digital MSMEs

4 **Indigo Telkom (Digital Lounge) - SOE Coworking Space**

About

Indigo Telkom fosters startups through the creation of incubator and accelerator programs that vary from startup establishment, growth, and helping them through the process of building startups that are meaningful to the nation.

a **Detail**

- Address : Wisma Menpora, indigoSpace Jakarta, Jalan Gerbang Pemuda No.2, RT.1/RW.3, Gelora, Kecamatan Tanah Abang, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10270
- Number of Floors: 2
- Net size: -
- Accessibility: 1 minute walk from Transjakarta station
- Operating Schedule: Monday - Friday 09:00 - 17:00

b **Program**
- Pre-startup & Discovery: Nurture and validate ideas to get MVP validated by customers (problem solution fit)
- Incubation: Generating market-appropriate products through product and business model validation
- Acceleration: Mentoring to pre-seed and seed startups focused on scaling their business and helping them break into the Venture Capital space

c **Services & Facilities**
- Services: Co-Working Room, Meeting Room
- Facilities: Reception, Waiting Room, Lounge

d **Participants**
- ETabs Technology
- Verihub
- Psikku

STRENGTHS	WEAKNESSES
• Support from Telkom Indonesia ecosystem • Has hub spaces in several major cities in Indonesia	• Local communities are less active, thus access is mostly through Indigo Telkom as main partner.
OPPORTUNITIES	**THREATS**
• Programs targeting the acceleration of digital startups.	• Similar branding to 1000 Digital Startups

5 **Jimbaran Hub**

About

Jimbaran Hub is a place where all communities of creative people gather in a space to generate, collaborate, make and create in the early 21st century. Jimbaran Hub itself is a creative circle within Green Jimbaran, with a mission to bridge all differences and cultural growth that blends forward-thinking, change and dynamism.

a **Detail**
- Address: Jalan Karang Mas, Jimbaran, Kec. Kuta Selatan, Kab. Badung, Bali 80361
- Number of Floors: 1
- Net size: -
- Accessibility: 15-minute drive from Ngurah Rai airport
- Operating Schedule: Monday - Saturday 08:00 - 17:00

b **Program**
- -

c **Services & Facilities**
- Services: Co-Working Room, Meeting Room, Café
- Facilities: Reception, Courtyard Terrace, Skate & Bike Park, Art Room, Weekend Market

STRENGTHS	WEAKNESSES
• Theme of the location supports the green economy ecosystem	• Does not have its own program • Location is far from the city center

OPPORTUNITIES	THREATS
• Open to tenants/organizations to rent space	• Highly specialized target audience with specific niche

6 **Dharma Negara Alaya (DNA) Creative Hub**

About

Dharma Negara Alaya (DNA) Creative Hub serves as a venue for exhibitions, workshops, cultural-themed events, and more. The realization of the economy in the digital 4.0 era, aligned with the vision of a creative and cultured Denpasar city. Admission is free, and any youth or community is welcomed to freely do creative activities in this building.

a **Detail**
- Address: Jalan Mulawarman, Dauh Puri Kaja, Kec. Denpasar Utara, Kota Denpasar, Bali 80231
- Number of Floors: 2
- Net size:
- Accessibility: 45 minutes drive from Ngurah Rai airport
- Operating Schedule: Monday - Friday 09:00 - 22:00

b **Program**
- Festival Pemuda
- Bengkel Kreatif
- Talkshow & Diskusi

c **Services & Facilities**
- Services: Art Space, Coworking Space, Virtual Office, Library, Theater, Discussion Room, Makerspace, Coffee Shop
- Facilities: Reception, Waiting Room, Lounge

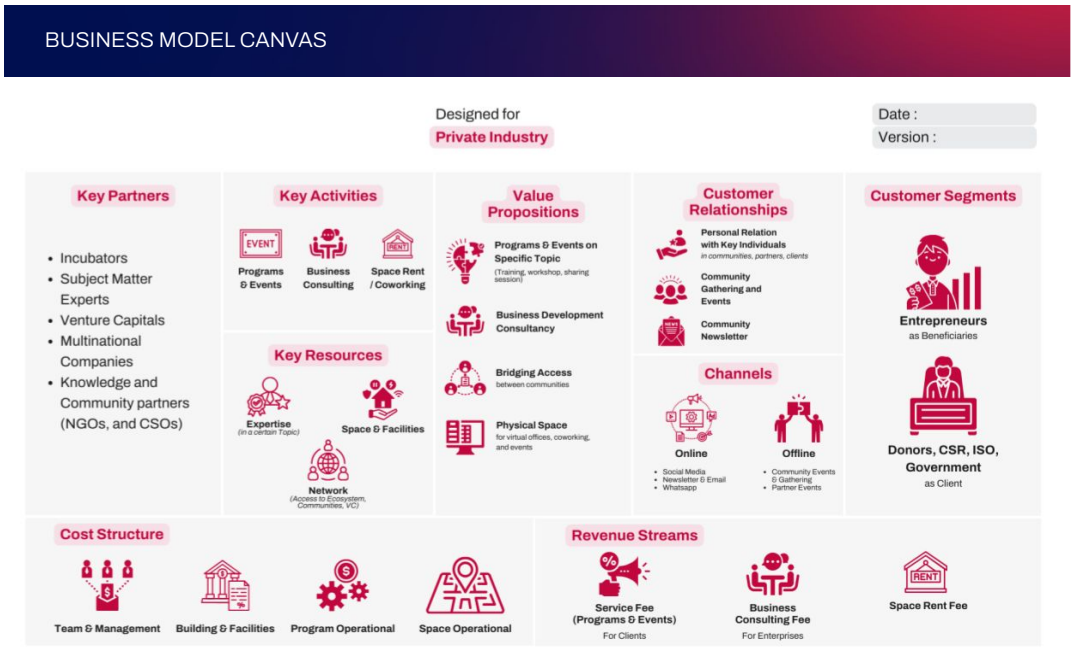
STRENGTHS	WEAKNESSES
• Support from Denpasar City Government and Bkraf Bali • Location in central location with easy access	• Special selection for programs to be implemented

OPPORTUNITIES	THREATS
• Open to the public, from students, young people, to digitalpreneurs • Contribution system to the operational costs of the program	• Competitiveness with coworking spaces in areas that attract more foreign tourists

DIGITAL HUB BUSINESS MODEL ANALYSIS

From the identification performed on several existing hub operators in Jakarta and Bali, some basic similarities and differences were found between the 3 types of business model classifications, namely private industry, government, and SOE.

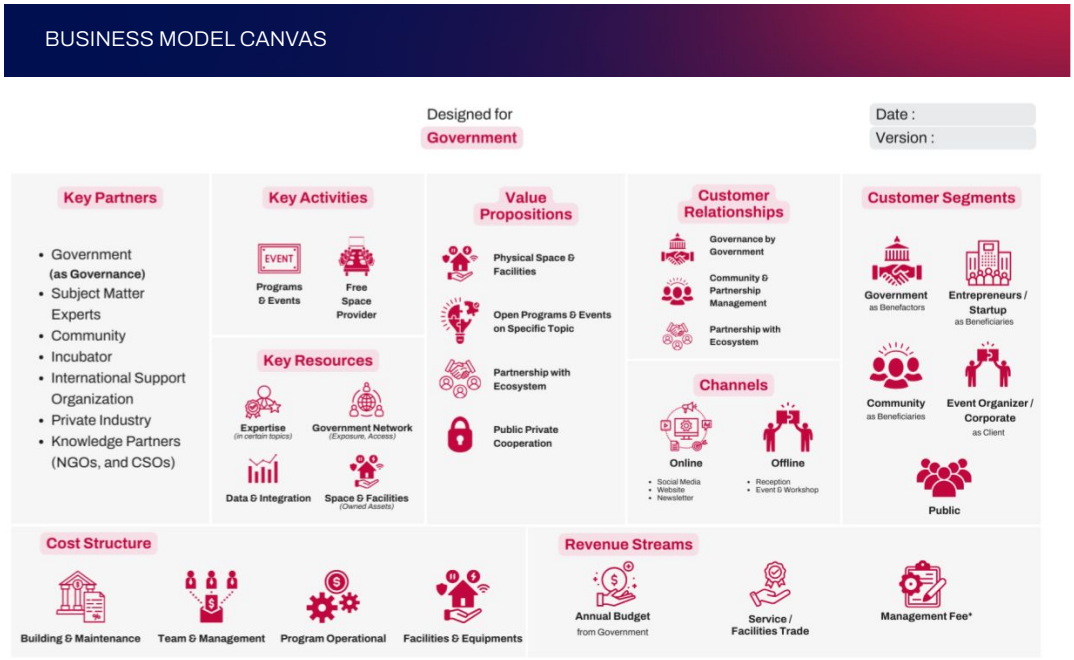
1 PRIVATE INDUSTRY



- Key Partners: Key partners of private digital hubs tend to prioritize experts from various backgrounds, and then Investment sources or donors such as venture capital and cooperation partners such as Incubators/Accelerators.
- Customer Segments: Customers of private digital hubs consist of 2 user segments, namely entrepreneurs as beneficiaries of the programs and support provided, while on the other hand the client side includes the Government, donors, CSOs that provide facilities to the program.
- Key Activities: The main activities of private digital hubs generally focus on programs and events that are aligned with the interests of key partners, business consulting to maximize client development, and space renting to maximize existing assets.
- Customer Relationships: Client relationships in private digital hubs focus on direct relationships with key individuals from key partners and customer segments. Relationships are established with personal through events and programs.
- Key Resources: Key resources for private digital hubs are experts who can help with client and partner's issues or challenges; networks in the ecosystem to increase the scalability, influence and impact of programs, while facilities and space for in-house production in order to minimize costs due to asset usage.

- Channels: The main channels used for communication needs or events can be offline and online
- Value Proposition: The unique value proposition of private digital hubs is developing programs according to certain topics that are the specialties of each digital hub. Private digital hubs also have the advantage of providing business consulting and giving users access to their networks of ecosystem.
- Cost Structure: Most of the expenses are internal to the digital hub in running the programs and operations of the hub.
- Revenue Streams: Programs and consulting services generate the largest revenue for private digital hubs, which is intended to cover operating costs. On the other hand, private digital hubs are able to have stable revenue through leasing physical space

2 GOVERNMENT

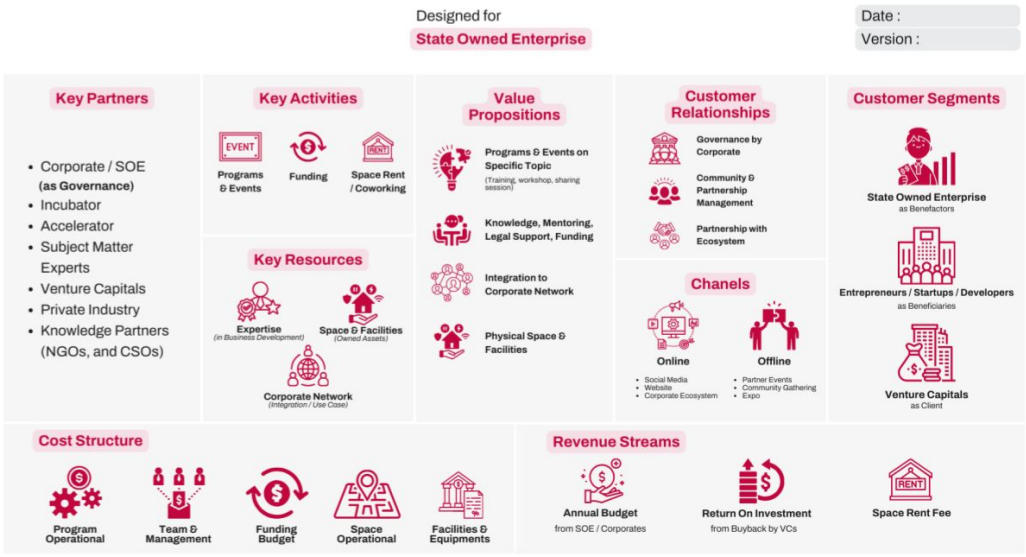


- Key Partners: The main partners for government digital hubs come from government agencies for activities and programs within the digital hub. On the other hand, the private sector acts as a contributor or partner in implementing or developing programs, and other partners play the role of experts and community partners.
- Customer Segments: Most usage of the digital hub are for spaces and services such as programs is done organically by the Institution in charge of the government digital hub, extended to government agencies, then to partners and communities.
- Key Activities: The main activity in the Government digital hub is the use of Government assets and facilities that are used for programs, activities, and the provision of free space for the community.

- Customer Relationships: The main relationship of the Government digital hub is with the parent agency as governance. The government collaborates with development partners and the private sector to establish public private partnerships.
- Key Resources: The main key resource for the government digital hub is a network of experienced experts recognized by the government to establish cooperation and implement programs. The government also has the advantage of resources in the form of data, space and physical facilities that can be utilized to host activities for the digital hub.
- Channels: The main channels used for communication needs or events and activities can be done offline and online.
- Value Proposition: The unique value proposition of government digital hubs is the provision of facilities and physical spaces that are free to the public. In addition, there are programs and activities that provide opportunities to gain access to public private partnerships, access to data, networks and government bureaucratic channels through partnerships.
- Cost Structure: The government's digital hub financing structure is allocated for building and facility operational costs, team costs, program operational costs, and physical and non-physical asset maintenance costs.
- Revenue Streams: Revenue streams for government digital hubs are generally included in the annual budget prepared by the government. Beyond that, generally government digital hubs cannot receive revenue from services and facilities, but receive a form of exchange of services and facilities.

3 STATE / REGIONAL OWNED ENTERPRISES

BUSINESS MODEL CANVAS



- Key Partners: While the SOE digital hub's main partner is the government or parent company of its institution, it also collaborates with incubators, accelerators, experts, venture capital and others to bridge between the government and the private sector.
- Customer Segments: SOE digital hubs have 3 types of customer segmentation. The parent company of the digital hub acts as a benefactor providing resources. Digital entrepreneurs act as beneficiaries to receive the services and programs provided by the digital hub. The last customer segment is venture capital, which periodically invests in startups that grow out of the digital hub ecosystem through the purchase of convertible notes.
- Key Activities: Active implementation of programs and activities, as well as a knowledge center in the form of mentoring. The SOE digital Hub also connects the public and private sectors using the assets and facilities of the space.
- Customer Relationships: Prioritize the relationship with the parent company as governance, and also maintain community partnerships and relationships in the digital hub ecosystem.
- Key Resources: The main resource possessed by SOE digital hubs is expertise, especially in business development. This is supported by the access that SOE digital hubs have to parent companies and subsidiaries as solution seekers. In addition, the SOE digital hub is supported by assets and facilities owned by the parent company.
- Value Proposition: The unique value of SOE digital hubs is their network and integration with parent companies. This places the SOE digital hub as a knowledge center capable of bridging the business sector with regulation. SOE digital hubs also have the privilege of being able to connect the public and private sectors by utilizing their assets and facilities.
- Cost Structure: The main costs in SOE digital hubs are derived from program development and implementation, then SOE digital hub team and management costs, building and facility operational costs. SOE hubs also actively finance funding for business development.
- Revenue Streams: The main source of funding for SOE digital hubs comes from the annual budget allocated by the parent company. In addition, SOE digital hubs also have the opportunity to source revenue from business development investments in start-up companies. In some cases, SOE digital hubs may also charge rental fees for space and facilities.

4 COMPARATIVE ANALYSIS OF DIGITAL HUB BUSINESS MODELS

Analysis of the Business Model Canvas of each digital hub type was conducted to compare revenue stream and value propositions. The main differences of the three business models are as follows:

- Revenue Streams: Each digital hub has different revenue streams due to its background and type of legal entity.
    - Programs and events: Service fees for running programs at private digital hubs are generally charged to clients and development partners, in contrast to government and SOE digital hubs which generally get a budget from the central government. In addition, SOE hubs also get revenue from supported startups in the form of convertible notes purchased by venture capital.
    - Business Consultation & Facilities: Private digital hubs provide paid business consultation to users, while these paid services are not applicable to government digital hubs due to restrictions on receiving revenue through public assets. However, a similar alternative is the exchange of providing facilities or services to the digital hub.
    - Physical space: In terms of physical space usage, private digital hubs and state-owned digital hubs have the authority to set rental fees for users of co-working spaces or communal spaces. For government digital hubs, not all can set rental fees, but can provide management fees in the implementation of activities that are used as funds for the maintenance of digital hub physical space.

- Value proposition: Each digital hub type has a different approach to the value proposition.
    - Programs and events: Private and state-owned digital hubs run programs and activities according to the expertise and specialization on certain topics of each hub. Meanwhile, government digital hubs in particular run programs more open and public in order to connect with the wider community. In the Government digital hub business model, there are opportunities to run public private partnerships and provide access to data, facilities and public spaces.
    - Space and Facilities: Private digital hubs use private owned space and facilities while government and state-owned digital hubs utilize active and idle government assets. Private digital hubs charge facility fees such as tools and access to data and networks according to the specialization of each hub. Meanwhile, state-owned and government digital hubs provide access to data and subject matter experts free of charge.
    - Ecosystem and Network: The ecosystem and network of private digital hubs focus on cooperation with specific industry sectors to establish cooperation with corporations, startups, and investors. While SOE digital hubs prioritize cooperation with subject matter experts and venture capital to develop its clients and partners. In contrast, government digital hubs provide a more inclusive platform, connecting various sectors with access to data, policies, and public private partnership programs enabling public and private sector collaboration.

0.3

Digital Hub Network Concept

Digital Hub Network Concept

DIGITAL HUB DEFINITION

Digital hubs act as one-stop solutions that help companies and governments expand the use of digital technologies to improve operational, business, production, service processes, and enhance overall competitiveness. Digital hubs share advanced knowledge and expertise with Institutions and customers and provide access to the latest technologies. It also guides customers in exploring and piloting digital innovations, and where necessary, offers business support and financing to customers to implement these innovations across the value chain.

Digitalization is not just the act of acquiring information technology systems and equipment, but involves changes across fundamental business dimensions:

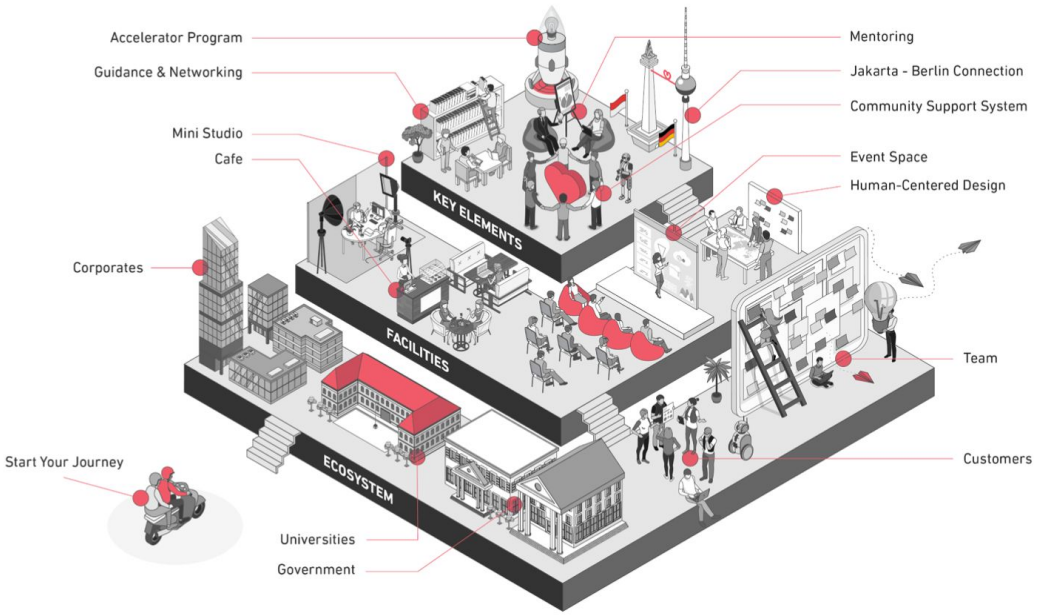
1. **Process**: Digitalization involves increasing automation in production and integrating simulation and data analysis into processes and supply chains. As a result, substantial and sustainable improvements in productivity and resource efficiency can be realized throughout the product lifecycle, from product design to lifecycle management.

2. **Product:** With the advent of the Internet of Things, digitalization has entered the realm of products, with information and communication technology (ICT) increasingly embedded in all kinds of products. Examples are self-driving cars, wearable techs, and smart home appliances.

3. **Business Model:** Digitalization is redesigning the value chain and blurring the lines between products and services. Smart, connected products encourage adaptation to changing customer behavior, resulting in products and services that are co-created and highly personalized.

DIGITAL HUB KEY ELEMENTS

An ideal Digital Hub has three key elements to connect Institutions, Entrepreneurs, Government and Customers through various activities to maximize the ecosystem, cooperation, and knowledge sharing.

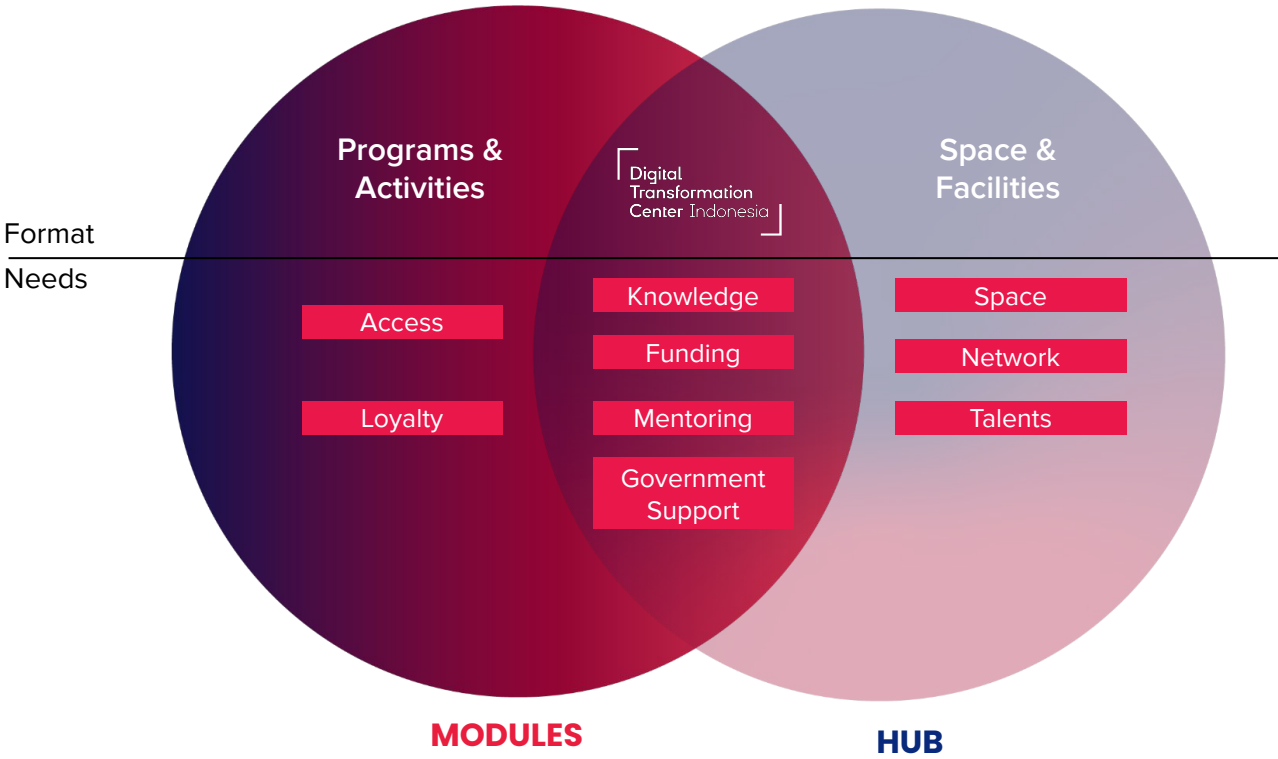


1 **Ecosystem:** Using the pentahelix model, which synergizes the roles of government, industry, academia, media and society to form a dynamic ecosystem for innovation and economic development. The government shapes policies and infrastructure, SMEs and startups as users of innovations to drive job creation and local economic improvement, universities contribute in terms of research and education, media as information platforms to develop businesses and play a strong role in promoting existing innovations, and the public plays a role in representing the market and public acceptance. The ecosystem aspect enables the involvement of all networks from each stakeholder to complement innovation, cooperation, and client's partnership.

2 **Facilities:** A physical space that serves as a gathering place for stakeholders to meet, share, and innovate by utilizing available facilities. The facilities of a digital hub include, but are not limited to: Basic facilities such as offices and rooms for activities and collaboration (offices, meeting rooms, coworking spaces), and additional facilities that enable more diverse and specific activities and collaboration (event areas, podcast rooms, digital and creative spaces). All facilities in a digital hub need to be designed with human-centered design in mind.

3 **Key Elements:** The core of a digital hub lies in the services and programs provided to support local digital entrepreneurs in an effort to drive digital transformation in the local ecosystem. Some examples of programs and services that can be provided by digital hubs include: Business incubation and acceleration programs, networking, guidance and mentoring, content and events, as well as workshops with key stakeholders to improve the upstream-downstream efficiency of the digital economy and contribute to the added value of the industry being run in the country. Market development is one of the crucial things that need to be achieved from the establishment of a digital hub in a region.

DIGITAL HUB NETWORK OVERVIEW



The digital hub network was built based on the research that digital hub operators each need support and collaboration to maintain quality and operate sustainably. Therefore, each partner should focus on their respective strengths and functions.

- Role of the Ministry of National Development Planning (Bappenas)
  Bappenas as an initiator can be a bridge between the national strategy and its implementation with the digital hub operator as the anchor point of digital transformation. Therefore, Bappenas can provide recommendations, advice, and encourage a greater national role of the digital hub.

- Role of Other Stakeholders
  Other key stakeholders that can support Bappenas in the implementation of the digital hub network include:
  - Ministry of Communication and Information (Kominfo)
  - Indonesian Chamber of Commerce and Industry (KADIN)- Section 9 Information and Communication Technology
  - International cooperation partners
  - Digital entrepreneurship support organizations

The following stakeholders need to work together to create an active community-based hub environment, which enables users and customers to create added value. This suggests that the government can apply a top-down approach to oversee project implementation, but needs bottom-up partners to help create the community.

Based on our research, there is a need for a support structure for digital hubs, to assist local governments and other stakeholders in implementing and sustaining digital hubs. Therefore, Bappenas and other key stakeholders should create a steering structure to support communication and exchange between each digital hub.

DIGITAL HUB CRITERIAS

Minimum Criterias for Digital Hub Space

To create a physical digital hub, some minimum criteria must be met. These include space type, function, as well as location-based criteria.

- **Accessibility and Surrounding Environment**
  Availability of public transportation and parking lots, distance to strategic areas/areas

- **Sustainability**
  Potential for long-term collaboration, viable business models, alignment in long-term plans for digital hub locations

- **Space Opportunity / Location**
  Potential for growth, potential for showcase open and modular spaces, operating costs, internet speed, revenue expectations

- **Design**
  Look and feel, potential for modification, branding

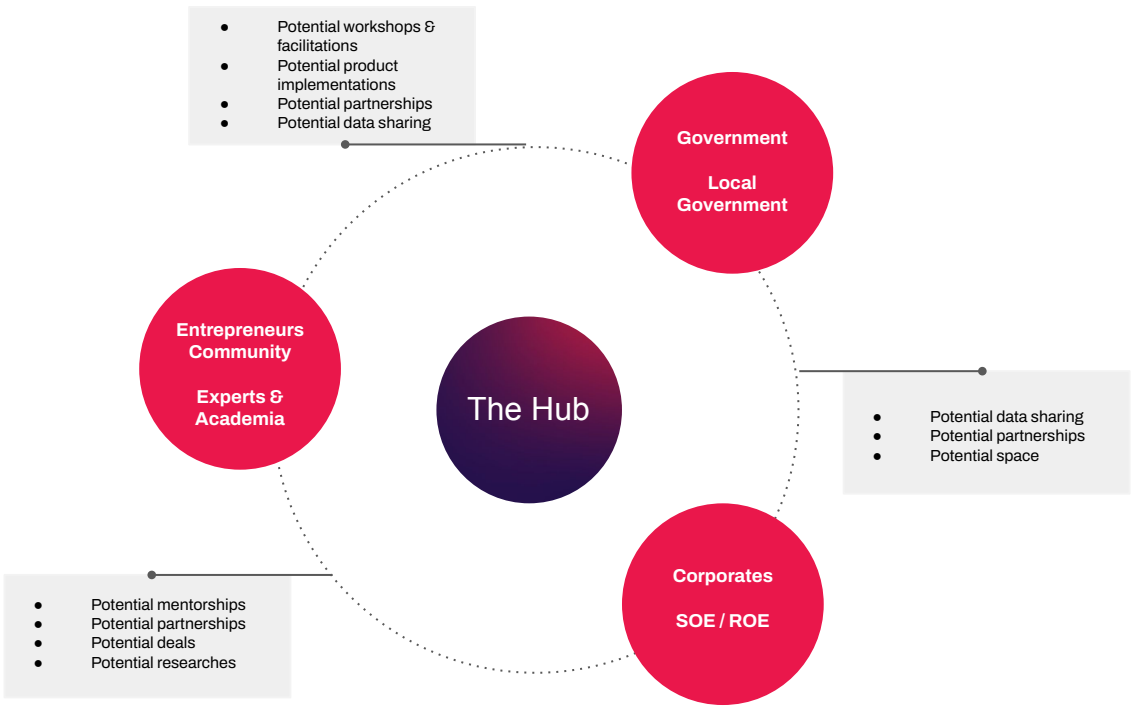
Minimum Criterias for Digital Hub Content

In addition to the physical hub criteria, a certain level of readiness to implement a digital hub is also required either within the location partner or by including a digital entrepreneurship support organization. Some criteria to consider in determining collaborative implementation of digital hub activities:

- **Funding**
  Existing funding, pricing model, financial expectations
- **Program**
  Existing programs or initiatives related to digitalization, target users
- **Content**
  Exchange between digital hub members, content expectations (programs, training, events), launch phase expectations, relevance to digitization
- **Contribution**
  Financial contribution to implement the module on an ongoing basis, space to be utilized

DIGITAL HUB & NETWORK BUSINESS MODEL

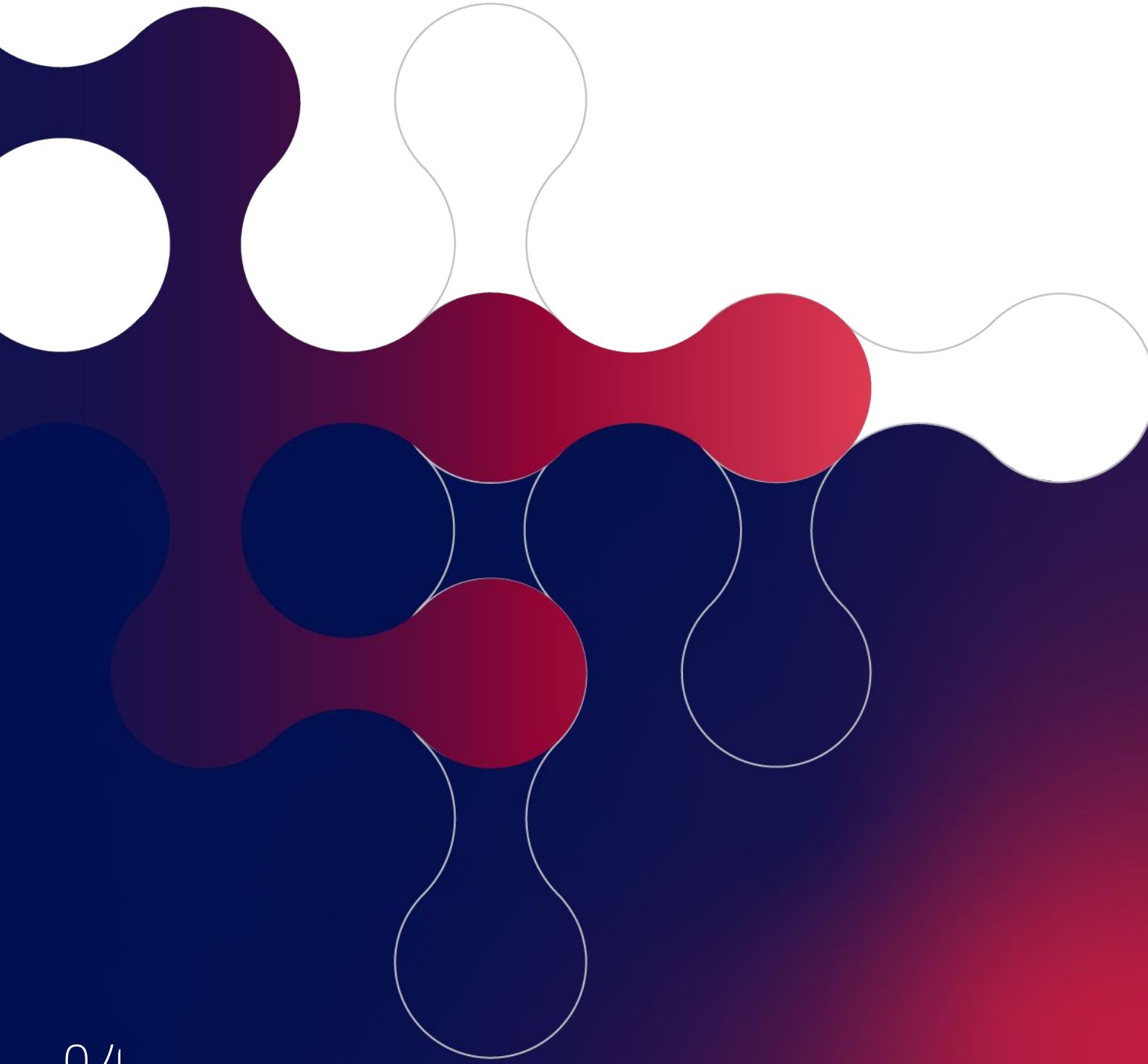
The suggested approach is a digital hub as a partnership between the entrepreneurial community and the Government, state-owned enterprises, public research institutions, digital entrepreneurship support organizations, and local public authorities.



The digital hub aims to support local and international talent by developing a design-led ecosystem and living lab. The hub helps MSMEs and businesses digitize and scale up through training courses, accelerator programs for start-ups, and innovation services for established companies.

The Public Private Partnership structure leverages public and private assets through the following: 1) building donations or agreements; 2) research institutes or digital entrepreneurship support organizations that share third-tier sector expertise to develop skilled talent to meet industry needs and to stimulate innovation, RDI, and IP; and 3) local government knowledge and networks to drive economic development.

These digital hubs generate revenue through rental income, monthly and annual memberships, testing and research facility usage fees, coaching and other investment readiness support, milestone success fees, and others. It is intended that the digital hub can operate independently in the long term.



0.4

Target Users

Target Users

When exploring the different types of target users that are suitable for the digital hub development concept, five types of target users were identified based on the results of the ideation workshop that had been held previously between the Ministry of PPN/BAPPENAS, the Ministry of Communication and Information Technology (Kominfo), and GIZ. The following target users are further divided into 2 categories:

EARLY ADOPTERS

Early adopters are the group of people who are the first and main target of the digital hub, namely entrepreneurs.

1

MSME Entrepreneurs
(Micro, Small, Medium Enterprises)

Profile
MSME entrepreneurs focus on specific services or products that rely on local communities for market share, such as food, fashion or crafts. These entrepreneurs leverage their networks and educational and professional backgrounds to form teams and create solution-oriented organizations.

In the context of digital hubs, MSME entrepreneurs need support to properly set up their businesses and utilize technology to expand their market reach, improve operational efficiency, and develop their products or services. This category of MSMEs can be divided into 3 types according to the needs of digital transformation as follows.

- Go Online: MSMEs that want to transform from conventional businesses to online businesses that market their products on social media.
- Go Digital: MSMEs that expand their marketing and operational activities to digital platforms such as e-commerce and websites.
- Go Modern: MSMEs that integrate the entire operational process from marketing, manufacturing, and transactions digitally and utilize digital technology or applications such as online POS systems.

Challenges and Needs

- Business Development Support
  Business management, marketing and technology skills are often required by MSME entrepreneurs to compete in an increasingly digitized marketplace. They need a reliable partner to provide guidance, on-the-ground insights and validation of their ideas. In addition, they also need a complete understanding of the markets they want to enter.

  Training and education programs and mentoring by mentors can help improve their skills. Better access to technology infrastructure, data and insights, and technical assistance can help them adopt digital technology to manage their business, especially in terms of online marketing, inventory management, and finance.

- Operational & Organizational Support
  Another issue that these MSME entrepreneurs face is access to funding and understanding of ways to obtain financial support to finance their business operations and support growth. Therefore, they need better funding options, including business loans, investments, or financial assistance programs.

  Efficient financial management is key to the success of MSME businesses. They need access to resources that help them manage their finances, create budgets, and plan for sustainable financial growth. As a relatively new company, the team should be able to operate in an environment that allows and encourages trial and error with manageable risks in growing their business.

- Government & Regulatory Support
  MSME entrepreneurs need to understand the applicable business regulations and ensure that they comply with the rule of law. They need access to information and legal assistance that can help them run their businesses in compliance with regulations including licensing and legal administration. Therefore, the involvement of government actors is needed to provide guidance and support for MSME entrepreneurs and develop an ecosystem that effectively manages stakeholder expectations.

- Access to Networks and Collaboration
  A challenge for MSME entrepreneurs is the lack of access to relevant networks. Building business networks and collaborating with business partners and other stakeholders can help MSMEs to seek new opportunities, access resources, and build strong relationships within the business ecosystem.

  Furthermore, beyond guidance from mentors, these entrepreneurs should connect with other entrepreneurs who have similar experiences to help foster a collaborative work culture at the digital hub.

2

Digital Entrepreneurs

Profile

Technopreneurs include founders of technology startups, app developers, or individuals whose businesses rely heavily on digital technologies including software, apps, and digital platforms. Digital entrepreneurs tend to have high innovation in technology and creative thinking skills in finding new ways to solve problems or meet market needs through digital solutions.

As the market becomes more dynamic, keeping up with technological changes and evolving market trends is necessary for businesses to adapt. Digital entrepreneurs often have direct interaction with their customers through online platforms to communicate with customers and get feedback in an effort to accelerate their business.

These entrepreneurs have been operating for several years and have a deep understanding of their local tech ecosystem. Besides focusing on the local market, most digital entrepreneurs are also oriented towards the global market. However, they need advice and strategies to facilitate safe and efficient operations.

Challenges and Needs

- Research and Data Availability
  Accurate market information and data are key to making informed decisions. Digital entrepreneurs need access to relevant market research and data from both local government and industry to understand consumer trends, competition and new opportunities that can be exploited. Digital entrepreneurs use data to understand customer behavior, track business performance, make data-informed decisions, and develop robust adaptation strategies.

- Mentoring and Assistance
  Mentoring and coaching programs provide guidance and mentorship to digital entrepreneurs. Experienced mentors can help them overcome business problems, design growth strategies, and avoid common mistakes that can hinder business progress. In addition, mentors can guide digital entrepreneurs to potential business partners, investors, or even competitors who can become collaboration partners. This network helps them get support, advice or new business opportunities.

- Legal Protection and Data Security
  In a complex digital world, digital entrepreneurs need to understand and comply with applicable legal regulations. Government support and expert assistance in legal and cybersecurity matters help them maintain business and data integrity. This is because digital entrepreneurs need access to legal information and technology that can help them protect their business and data security, especially if they collect and manage customer data.

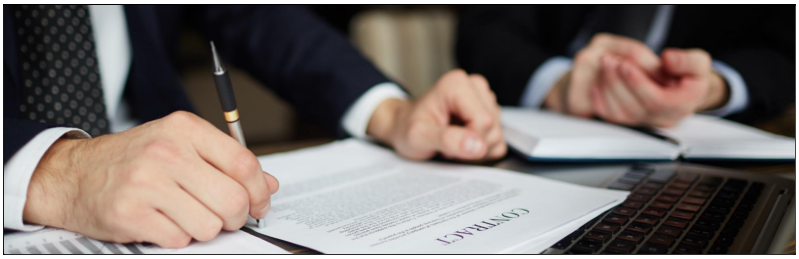
- Global Access and Funding
  If digital entrepreneurs have global market ambitions, they need to understand and prepare for international challenges. This involves understanding trade policies, international logistics, cross-cultural communication, and risk management in the context of a global market. In addition, most digital entrepreneurs require seed funding to start or grow their business. They can source funding from a variety of sources, including bank loans, venture capital, crowdfunding or government programs. Access to these funding options helps them accelerate their business growth towards the global market.

ADVANCED USERS

Although entrepreneurs will be the main target of the digital hub, there are several other groups of actors who are also target users of the digital hub and will play an important role in its success.

The following advanced users include the government as partners in national authorities with extensive knowledge of bureaucratic systems that want to support innovation initiatives and digital transformation for digital entrepreneurs, and academia as partners. This includes: mentor investors - experienced partners with extensive knowledge of startups and the corporate environment, and government.

3



Government

Profile

As central decision makers and regulators, government agencies play a major role in determining the direction of policy movements, in this case creating a conducive environment for digital innovation and growth in sectors that focus on the development of the digital business economy, technology, or other industrial fields.

The government has an interest in driving digital transformation in Indonesia and developing a healthy business ecosystem that encourages innovation. The government can act as a liaison between various parties in the digital ecosystem, including startups, universities, research institutions, and the private sector to encourage strategic partnerships and knowledge exchange.

To support the sustainability of digital hubs, the government has an important role as a representative of public stakeholders and serves as a regulator, facilitator, or collaboration partner to listen to public input and respond to their concerns.

Challenges and Needs

- Digital Policymaking

  The main challenge identified by the Government is that the current laws, namely taxation and regulation, struggle to support the development of a dynamic startup and innovation ecosystem. This includes developing regulations that support innovation, consumer protection, data privacy, and cybersecurity.

  A successful solution will support government actors to develop data-driven policies that can support startup growth and attract foreign talent as well as encourage local entrepreneurs to develop their startups in the country.

- Collaboration and Partnership

  The current government also has difficulties in collaborating with various stakeholders and other influential partners. This issue is critical as the Government looks to strengthen and expand partnerships with various stakeholders to support growth and provide opportunities for domestic citizens and entrepreneurs.

  A successful solution will identify strategic partnership opportunities between digital hubs and stakeholders in creating a collaboration mechanism between various parties (entrepreneurs, universities, research institutions, and the private sector) that is mutually beneficial.

- Limited Supporting Resources

  Another issue identified by the Government is that the current working instruments are insufficient to address the challenges facing the digital ecosystem today. With the desire to strengthen the importance of innovation in policies and programs, the government must ensure that the growth of the digital business ecosystem takes place in a fair and inclusive manner, by providing equal opportunities for all parties, including groups that may be marginalized.

  Among other things, the government can play a role in connecting funding sources or financial incentives to MSME entrepreneurs and digital entrepreneurs. In addition, the government can collect, analyze and share data on trends and developments in the digital business ecosystem. Lastly, the government needs to develop their own teams to adopt modern working practices.

4

Academia

Profile

Academia includes higher education institutions, researchers, teachers and students. Academia is often at the forefront of research in digital technologies and innovation, and has an interest in commercializing or applying their research findings in real business practices.

Some academia has resources and knowledge, such as research data, laboratories, research centers, innovation incubators, which can be used by startups for product development and prototyping. In addition, academics can also act as mentors and coaches for growing startups.

Cooperation with digital hubs can facilitate knowledge transfer between academic theory and practical application in the business world. Thus, innovations that have been done by previous research can proceed to the incubation stage to become sustainable businesses.

Challenges and Needs

- Access to Industry
  Academia has a need to network with companies and industry stakeholders. This enables collaboration on joint research projects, internships, or employment opportunities for students. Academics who manage educational programs also need to ensure that their curriculum is in line with the latest technological developments and industry needs.

  For academics who act as mentors and advisors, they also need capacity building on business practices and digital entrepreneurship skills to support their students and young entrepreneurs.

- Research and Innovation
  Academia needs access to research resources, research funds and laboratory facilities to conduct relevant research and contribute to the development of new technologies. These resources can be internal sources from the university or external sources such as government, foundation or corporate funds.

  Academia also needs a platform for interdisciplinary collaboration with fellow academics from various fields of science as well as disseminating research results through conferences, scientific journals, and seminars.

5

Business Practitioners

Profile
A practitioner is an individual actively engaged in the business world, as a manager, consultant, or other professional with expertise in a particular aspect of business. With extensive experience in both the startup community and the corporate business landscape, these partners can serve as mentors and offer unique insights into the market, industry trends, and challenges facing businesses for entrepreneurs.

They can also act as investors who are able to offer financial support and consulting to startups. As potential users of the digital hub, business practitioners can also in turn utilize the available resources, tools, and networks to enhance or diversify their business operations. They have a fairly high profile in the industry and have the ability to influence decision-makers behind the scenes.

Challenges and Needs

- Finding Partners and Teams
  The number of talents and startups that have sprung up lately, makes it difficult for business practitioners to identify certain talents they want to work with. The existence of a digital hub is expected to be a trusted link and source for practitioners to find talents, talented entrepreneurs, and startups to work with and support each other's businesses.

- Success Stories & Publications
  In addition to supporting entrepreneurs, business practitioners also strive to enhance their personal branding as leading innovators and professionals as well as mentors for upcoming entrepreneurs. Successful solutions will promote the success stories of the digital hub through strategic communications to ensure stakeholders and external audiences are aware of the work and achievements of the digital hub.

USER NEEDS

These insights were gathered through a process of group discussions, individual interviews, surveys, and feedback sessions from various entrepreneurs and stakeholders. Through their collective insights, we have compiled and categorized the needs and offerings of the entrepreneurs and supporting elements into eight headings:

- Network: Entrepreneurs need support in networking and integrating their businesses as part of the local digital ecosystem. With an emphasis on identifying strategic partners who have in-depth knowledge and experience of Indonesia as well as partners that best fit the needs of the business.

- Access to Market: Entrepreneurs need support from a local Indonesian perspective as well as market research support for the decision-making process when operating in new markets. The Digital Hub, program mentors, government agencies, and academia are collectively expected to provide businesses with access to the following information resources.

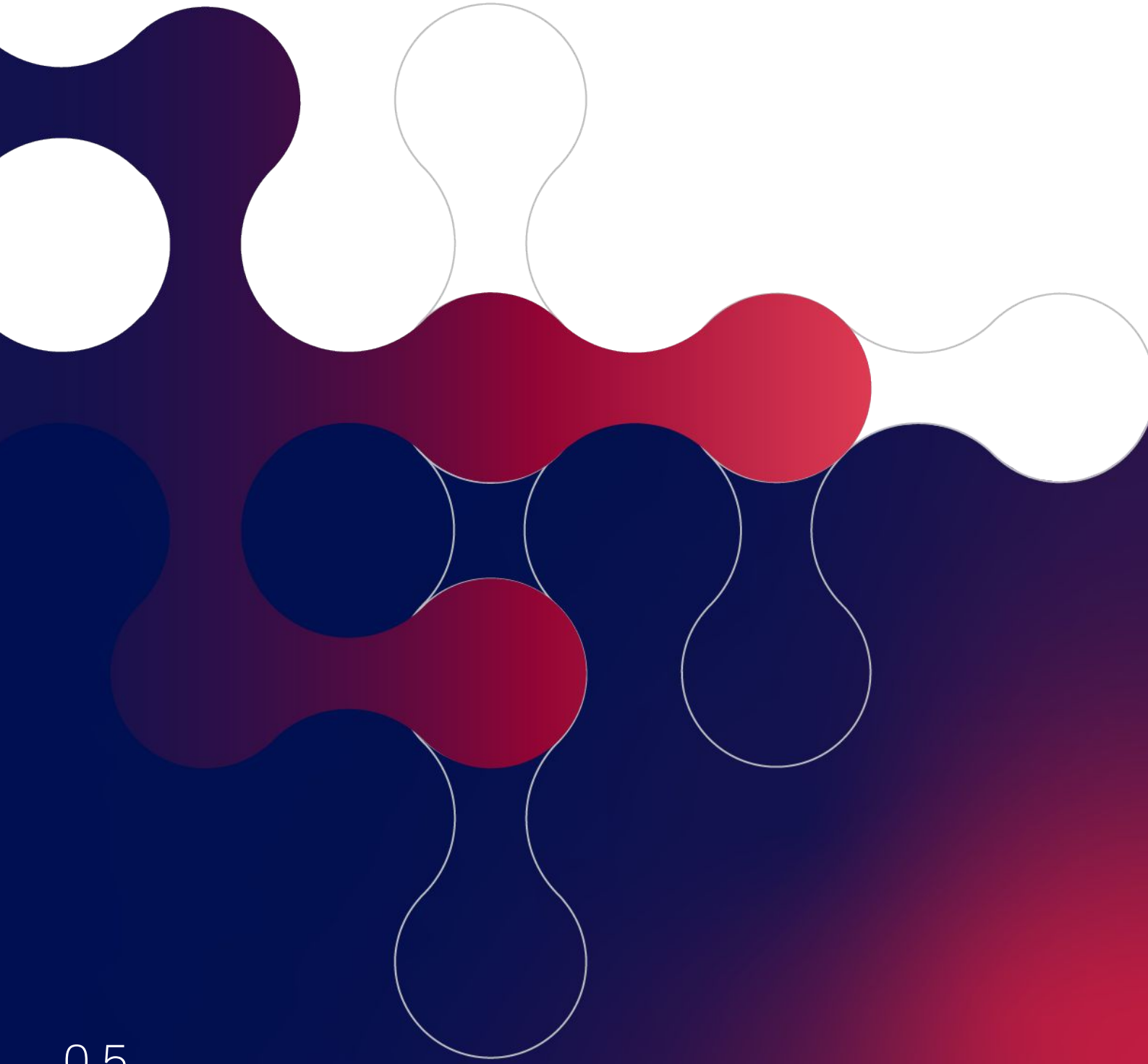
- Robust Mentoring: Entrepreneurs need guidance from reliable and experienced mentors who can provide unique insights that can help entrepreneurs from proof of concept to implementation and beyond. Mentors have context-specific expertise and insights to provide relevant assistance to businesses.

- Government Support: Entrepreneurs need support in navigating the ecosystem and bureaucracy of government agencies as well as guidance to ensure the solutions, products or services offered by their businesses are compliant with local laws and regulations.

- Funding: Entrepreneurs need support in accessing funding for their projects and businesses, especially for operational funding to cover OPEX. Guidance is needed that can provide clarity on how to access funding streams and open new avenues to funding through existing networks.

- Space & Safety: Entrepreneurs need a physical workspace to hold face-to-face meetings with teams and/or clients as well as to take advantage of spontaneous meetings that occur within the co-working space environment. In shared workspaces, safety practices need to be enforced.

- Talents: Entrepreneurs need access to networks to create an external profile and build teams. Support is needed through mentors and partners to identify and recruit local talent.

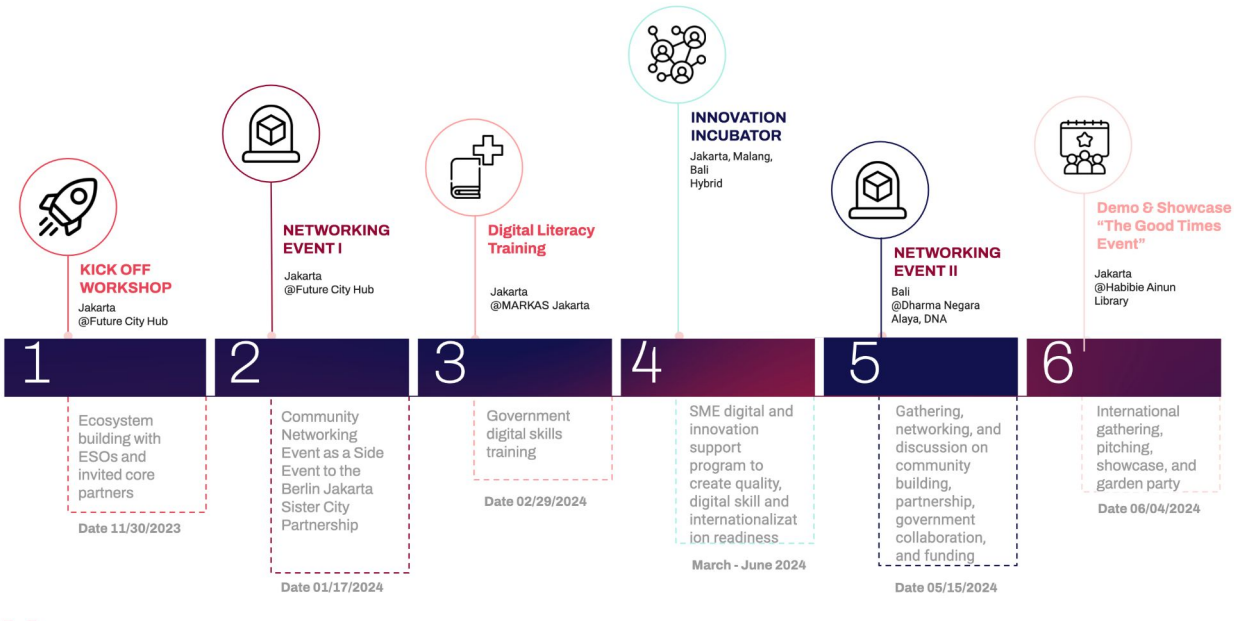


0.5

Design of Digital Hub Modules & Services

Design of Digital Hub Modules and Services

Based on the stakeholder analysis and findings above, the services of the digital hub were designed to be offered to digital entrepreneurs as an Entrepreneurial Support Program. The entrepreneurial support program includes a series of modules catered to digital entrepreneurs and their ecosystems. These programs aim to address the non-physical needs of digital entrepreneurs, namely mentorship, training and networking.



ENTREPRENEURIAL SUPPORT PROGRAMS

The Entrepreneurial Support Program, hereinafter described as the "Module" will be available to the general public and is specifically aimed at the target users of the digital hub, namely digital entrepreneurs.

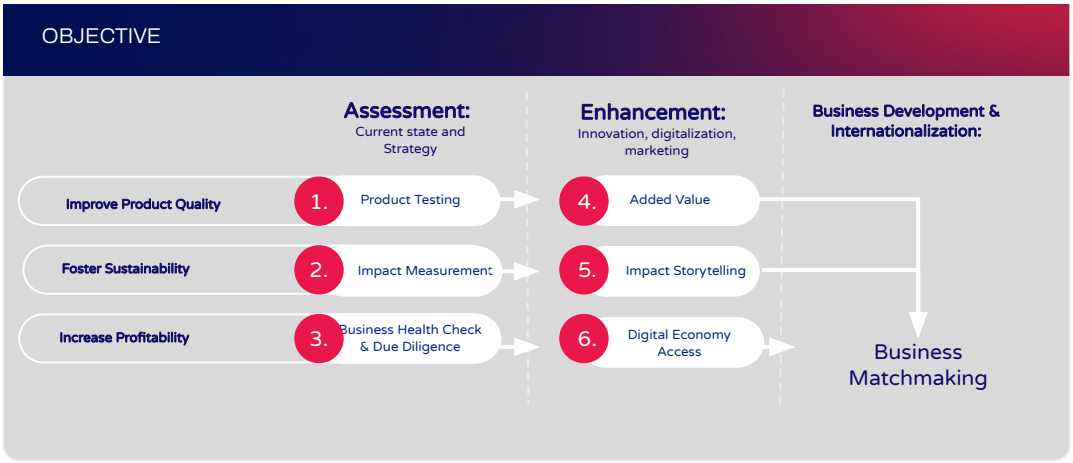
The following modules are designed according to the initial needs assessment and the unique selling proposition of the digital hub. If these activities become the core competency of the digital hub, then in the long term it may be possible to offer the following modules to other parties on a for-profit basis.

1 SME INNOVATION INCUBATOR

Program Description

The SME Innovation Incubator is designed to empower and promote sustainable small and medium enterprises (SMEs) on their journey to produce higher quality, sustainable, and more profitable products.

The program aims to address the unique challenges faced by digital entrepreneurs by providing the necessary knowledge, guidance, expertise, and resources on circular practices and products to build impactful and profitable businesses in the digital economy.



Program Component

Business Assessment: A comprehensive business assessment was conducted at the beginning of the program through one-on-one interviews with the business founders to develop an improvement plan to be achieved under the program by adjusting to the existing conditions and challenges faced by SMEs.

Business aspects that are taken into consideration in conducting the assessment include:

- Business Model
- Business Strategy
- Market Analysis
- Branding and Marketing
- Partnership
- Legal and Compliance
- Finance and Funding
- Challenges
- Support Needed

Mentoring:

A key component of the SME innovation incubation program is connecting digital entrepreneurs with mentors who are experts in business & sustainability topics. Mentoring is designed to help participants overcome challenges faced in business management, systems and operations. Through one-on-one or group mentoring sessions, participants can learn from their mentors' practical experience, gain industry insights, and receive customized strategic guidance to accelerate their career or business development in the digital era.

Mentoring is an important part of facilitating skills development and knowledge sharing to SMEs to improve product quality, foster sustainability, and increase profitability. Mentors are selected based on their expertise and experience in relevant industries and businesses. It should be noted that not all mentors are suitable for all SMEs, but need to be tailored to the needs and challenges of each business.

Access & Network

Facilitate access for digital entrepreneurs to government, media, international markets and the ecosystem as a whole. The following access is aimed at providing opportunities and support for entrepreneurs to develop markets, both through access to sales channels and partnerships with business partners.

Community Support

A series of networking events and supporting facilities that connect each of the stakeholders involved in the digital hub network to seek collaboration and partnership opportunities.

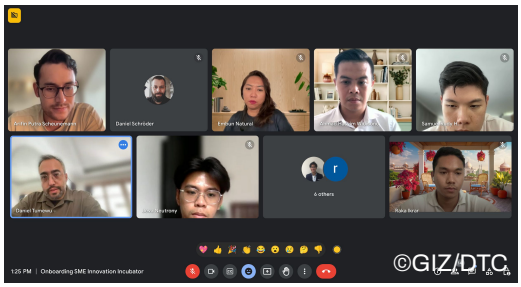
Piloting Program

The SME Innovation Incubator module was implemented as a pilot from March 2024 to June 2024 with Hi Incubator as the implementing partner and mentoring facilitator. The program was conducted online and offline and included the following activities:

Onboarding Session:

This session was designed to welcome the participants and officially open the program. The session was attended by all SME participants, GIZ representatives, and the program team from Hi Incubator to provide a clear overview of the program objectives, how the program is structured, and what is expected of the participating SMEs. The session is expected to help participants understand the essence of the program they will be undergoing.

Participants receive a detailed explanation of the program flow, timeline, and technicalities of the program so that they can plan their participation accordingly. By knowing the schedule and upcoming activities, participants will be able to manage their time and resources more effectively.

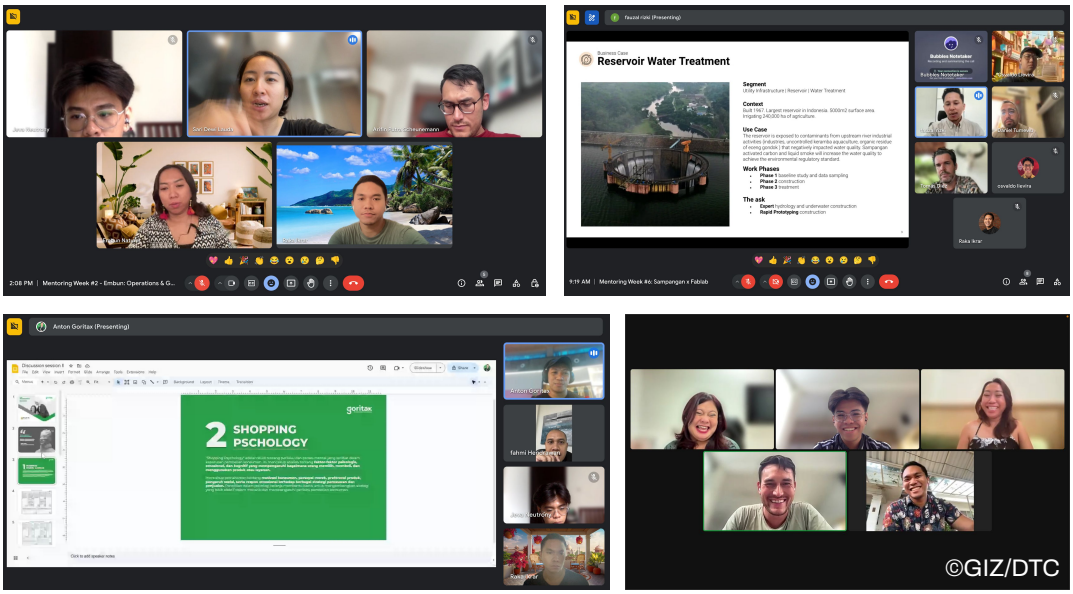


Mentoring:

Mentoring activities were conducted through several structured stages to ensure good mentoring quality and to ensure that mentors were paired with SMEs according to their goals, interests, and areas of expertise. The following mentorship activities were implemented in the pilot.

- **Individual Consultation (Assessment):** A personalized session that evaluates each individual business through questions targeted at the potential, challenges, situation and condition of each SME.
- **Mentor Matchmaking:** Pair SMEs with experts according to their goals, interests, and areas of expertise.
- **Individual Consultation (Strategy Formulation):** Discussion to determine the strategic objectives of the program, proposed selection of mentors for each SME, veto power given to SMEs to determine appropriate guidance and support.

- **Mentoring Week - Product Enhancement:** Mentoring activities focus on improving products in terms of quality, user satisfaction, and market competitiveness. In this mentoring topic, mentors help analyze the opportunities and challenges for each product selected by the SMEs.
- **Mentoring Week Check in & Adjustment:** A check-in session to review progress and make necessary adjustments to improve the mentoring experience. The topics determined in this mentoring week are thematic according to the specific needs of each SME.
- **Mentoring Week - Strategy and Business Development:** Mentoring activities aim to refine and improve in-market business development strategies and plans. The mentors will share their knowledge and experience, and try to adapt these strategies to the SMEs being mentored.



Inspirational Ask Me Anything Session:

This session was designed to give SME Innovation Incubator participants the opportunity to gain insights directly from experts in an interactive Q&A session as well as peer-to-peer interaction with fellow participants. The goal of the sessions was to share insights on topics that are relevant and applicable to their business growth. With extensive experience and knowledge in business and policy, Ilham Akbar Habibie was present as an expert in the Inspirational Ask Me Anything session on April 4, 2024.

During the discussion, Mr. Ilham provided inspiration and in-depth insights into the intricacies of innovation and development needed to achieve a Golden Indonesia.

In addition, participants had the opportunity to consult and explore various aspects of business and innovation and get input on action plans that can be applied to their business. Peer-to-peer sharing was also an important part of the session, where participants could share experiences and learn from each other in a collaborative atmosphere.

The session received an overwhelmingly positive response from participants as they were moved and inspired by the insights shared by Ilham Akbar Habibie. They also showed a willingness to share their stories, creating a supportive and motivating environment for fellow participants. The session proved to build passion and inspiration among participants, who were ready to apply the insights in business growth and development.

PROGRAM PARTICIPANTS

The SME Innovation Incubator module in this pilot implementation involved six entrepreneurs as participants.

1	EMBUN	embun NATURAL BODY CARE

Legal Entity	: PT Embun Natural Selaras
Industry	: Retail, Natural Body Care
Business Model	: B2C (beauty and care product retail) B2B (sales to hotel)
Funding Stage	: Bootstrap
Location	: Bali
Website	: https://embunnatural.com/
Linkedin	: http://linkedin.com/company/embunnatural/
Social Media	: http://instagram.com/embunnatural/
Description	: Bali homegrown handmade natural body care manufacturer provides products with ingredients derived from Indonesia's traditional recipes and combined with benefits of essential oils.
Product	: Body Care, Hair Care, Face Care, Spa, Home & Lifestyle
Founder	: Nadia Bintoro - hello@embunnatural.com 10+ years experience as journalist, marketing communications manager, and PR consultant across Indonesia, Australia, and England

2	PATEMAR	PATÉMAR

Legal Entity	: Patemar GmbH
Industry	: Retail, Swimwear, Sustainable Fashion
Business Model	: B2C (retail and marketplace) B2B (sales through hotel partnership)
Funding Stage	: Bootstrap
Location	: Bali
Website	: https://patemar.com/
Linkedin	: http://linkedin.com/company/patemar/
Social Media	: http://instagram.com/patemarshorts/

Description	: Bali-Vienna based sustainable luxury lifestyle brand whose products are 100% made from upcycled ocean-bound plastic waste, hand crafted in Bali by master tailors in small batches to ensure the highest standard of quality.
Product	: Swim Shorts
Founder	: Rudy Hertanto - rudy@patemar.com Experienced as Application & Project Manager Southeast Asia at Hult International Business School, volunteering experience in the United States, Mexico, and Indonesia.

3	SAMPANGAN	Sampangan

Legal Entity	: PT Hapus Sampah Nusantara
Industry	: Waste management, activated carbon, liquid smoke, liquid carbon, and catalyst
Business Model	: B2B (distributor for chemical, gold mining, farming, agriculture)
Funding Stage	: Seed
Location	: Jakarta
Website	: https://www.sampangan.id/
Linkedin	: http://linkedin.com/company/sampangan-id
Social Media	: http://instagram.com/sampanganid/
Description	: Innovative waste processing solution using carbonisation technology (heat radiation) to decompose solid waste (organic & inorganic) into carbon for organic agriculture and other industries.
Product	: Active carbon, biochar, liquid smoke, liquid carbon, syn-gas
Founder	: Muhammad Fauzal Rizki - fauzal@sampangan.id Experienced as Head of Partnership Xendit, Co Founder CIMB X - Senior Manager, Innovation, Partnership, Startup, Fintech Desk, Digital Manager CIMB

4	FATIH	FATIH INDONESIA

Legal Entity : PT Maha Fatih Indonesia
Industry : Retail, Fashion, Apparel
Business Model : B2C (Retail and E-commerce)
Funding Stage : Bootstrap
Location : Jakarta
Website : https://fatihindonesia.com/
Linkedin : http://linkedin.com/pt-maha-fatih-indonesia
Social Media : http://instagram.com/fatih_indonesia
Description : Solopreneur fashion company provides daily men's Muslim wear with a touch of Indonesian culture that is directly sourced by Batik Artisans.
Product : Men's wear, kids wear, Lifestyle wear
Founder : Fahmi Hendrawan - fahmidzakir@yahoo.com
Awardee of Australia Awards. Entrepreneur who focus on modest fashion and wastra (Indonesian traditional textiles, batik, tenun, songket)

5	SURPLUS	Surplus

Legal Entity : PT Ekonomi Sirkular Indonesia
Industry : Marketplace, Food & Beverage Service, Food Waste Management
Business Model : B2B2C (platform that connects F&B businesses as E-commerce)
Funding Stage : Seed
Location : Jakarta
Website : https://surplus.id/
Linkedin : http://linkedin.com/company/surplus-indonesia
Social Media : http://instagram.com/surplusindonesia
Description : Online marketplace that enables customers to buy surplus food from restaurants, hotels, farms, bakeries, supermarkets, etc., at the end of the day with 50% off (closing-hour discounts).
Product : Surplus Marketplace
Founder : Muhammad Agung Saputra - agungsaputramuhammad@gmail.com
Member of Indonesian Young Entrepreneur Association. Member of Indonesian Chamber of Commerce and Industry (KADIN). Board of Expertise Member of IABIE

6	PEDISCARE	

Legal Entity	: PT Karya Putra Remaja
Industry	: Health Service, Nursing
Business Model	: B2C
Funding Stage	: Bootstrap
Location	: Malang
Website	: https://pediscare.com/
Social Media	: http://instagram.com/pedis_care
Description	: First independent nursing practice recognized by the Ministry of Health and internationally meets the standards of WCET in the field of wound and stoma care, diabetes education, and nursepreneur programs established in Malang City.
Product	: Wound care, Nurse, Home Care
Founder	: Ahmad Hasyim Wibisono - ahasyimw@gmail.com Experienced as nurse manager in Rumah Sakit Brawijaya, Expert in wound care and diabetes education, developing healthcare based entrepreneurship

PROGRAM MENTORS

The mentors engaged by Hi Incubator into the program were selected based on their expertise according to the identified needs of each SME in the strategy formulation phase.

There were 12 mentors involved in the pilot implementation as follows:

1. **Arthur Guslim – Head of Strategy at Astra:**
   Strategic Consulting, Change Management
2. **Andi Iskandar – Co-founder dari ARMS (Barberia Indonesia):**
   Integrated Communication Management, Branding, Experiential Design
3. **Sari Lauda – Founding Member & COO Hangry:**
   Operations Automation, F&B, General Finance
4. **Nita Kartikasari – CEO & Founder KAYA.ID**
   SME Business Management, Branding, Marketing
5. **Mariko Asmara – Impact Angel Investor:**
   Human Resource and Sales
6. **Wanyi Pratiknyo – Co-Founder & Chairman Nexspace:**
   Branding, Marketing, Sales
7. **Anton Irawan – CEO & Co-Founder Goritax:**
   Tax, Accounting System
8. **Jemmy Chayadi – Director of Strategy & Sustainable Development Djarum Foundation:**
   Working with Foundations for CSR Programs
9. **Difa Farzani – Head of Public Advocacy Global Indonesia Professional Association:**
   Policy Advocacy and Government Relations
10. **Tomas Diez – Executive Director Fab City Foundation:**
    Digital Fabrication, Manufacturing
11. **Asmiani Fawziah – Human Resource Consultant:**
    Human Resources
12. **Vincent Kusuma – CEO of Vilo Gelato:**
    Business Strategy

The main target participants in the mentorship pilot were SME participants from the SME Innovation Incubator program. In total, 22 mentoring sessions were conducted during the pilot implementation, with the following distribution of mentoring activities

UKM	MENTOR	DATE
Pediscare	*Anton Wirawan*	*19 April 2024*
Pediscare	*Difa Farzani*	*25 April 2024*
Fatih	*Anton Wirawan*	*25 April 2024*
Surplus	*Sari Lauda*	*26 April 2024*
Fatih & Embun	*Andi Iskandar*	*29 April 2024*
Sampangan & Patemar	*Mariko Asmara*	*30 April 2024*
Embun	*Sari Lauda*	*02 May 2024*
Surplus	*Arthur Guslim*	*03 May 2024*
Sampangan	*Dubai Chamber of Commerce - Business matching through Hi Incubator*	*06 May 2024*
Patemar	*Andi Iskandar*	*07 May 2024*
Embun	*Nita Kartikasari*	*08 May 2024*
Pediscare	*Andi Iskandar*	*08 May 2024*
Sampangan	*Arthur Guslim*	*08 May 2024*
Fatih	*Andi Iskandar*	*13 May 2024*
Patemar	*Wanyi Pratiknyo*	*21 May 2024*
Embun	*Andi Iskandar*	*22 May 2024*
Sampangan	*Tomas Diez*	*27 May 2024*
Embun	*Sari Lauda*	*30 May 2024*
Patemar	*Mariko Asmara*	*30 May 2024*
Embun	*Asmiani Fawziah*	*05 June 2024*
Patemar	*Asmiani Fawziah*	*05 June 2024*
Pedis Care	*Vincent Kusuma*	*05 June 2024*

Recommendation

After the entire series of SME innovation incubator activities are completed, the Hi Incubator team conducts a debrief in the form of an evaluation including feedback, input, suggestions, and recommendations from each SME Innovation Incubator participant.

The following insights were gained through the evaluation process:

From the evaluation process, all participants of the SME Innovation Incubator agreed that mentoring was considered one of the most valuable services by the participants. The reason refers to the basic concept of the mentoring sessions run in the program, which is **personalized or tailored mentoring sessions.**

This concept is designed with the aim of creating a program that is suited to the needs of each business. By conducting a comprehensive business assessment with each SME founder, the Hi Incubator team was able to determine the current state of the business, including SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis, challenges, and goals of each participant of the program.

In mentoring activities, participants not only gain knowledge from the practical experience of the mentors, but also receive guidance in business strategy and management. With the approach of tailoring each mentoring component to the specific needs of the business, SME owners can get **practical solutions** so that they can grow their business effectively.

The SME participants greatly appreciated the profile and **quality of the mentors.** Each mentor has credibility and proven experience in their respective industries. In many cases, the opportunity to discuss directly with the mentors led to referrals of potential business partners and clients.

Mentoring activities should be the **core competency** of a digital hub by establishing a network of reliable and experienced mentors. Each mentor has their own motivations and reasons for participating in mentoring activities, so digital hubs need to find effective ways to ensure their involvement. In addition, the funding scheme must be carefully designed to provide proper compensation to the mentors, while ensuring the sustainability of the digital hub's operations.

In addition to the mentoring aspect, the feedback emphasized by participants refers to the program's function as a **platform.** This means that the program acts as a platform or facility to support the development of small and medium enterprises. Platforms can be digital or physical, offering the resources and networks needed to help business owners grow their businesses.

In this context, **providing access or networking** is an effort to pave the way for business owners to connect with various relevant parties, including the government, investors, business partners, and potential customers. Seeing the urgency of growth, Hi Incubator encourages program participants to serve a wider market segment. With the right marketing strategy and the use of digital technology, SMEs can reach more customers, both locally and globally.

This is linked to the **Digital Innovation Ecosystem** built within the Digital Hub Network. This ecosystem creates a supportive environment for entrepreneurs to thrive, by providing access to an extensive industry network. By leveraging the networks of the Ministry of National Development Planning/Bappenas, GIZ, hub partners, and program partners, SMEs can take advantage of various opportunities for growth and innovation.

Good scheduling is key to ensuring every element of the program runs smoothly and effectively. The **program was designed to be flexible and respectful of participants' time availability,** which made a positive impression, allowing them to participate optimally without sacrificing business operations and feeling overwhelmed.

As such, the majority of feedback and inputs from SME Innovation Incubator participants were positive and emphasized a favorable rating of the program implementation. By incorporating all the elements of the above recommendations, a customized program for SMEs can provide comprehensive and effective support, helping business owners achieve their goals and drive sustainable business growth.

The following improvements can be made in the future:

The main feedback from participants referred to the **duration of the program as being too short.** With a longer duration, participants have more room to learn every insight provided by the mentors and implement changes and feedback. With a longer duration, participants suggested weekly or monthly check-in sessions to ensure the business is on the right track. These regular check-ins can take the form of online calls or face-to-face meetings to discuss business developments, challenges faced, and solutions that can be implemented.

In addition, **publicity about the program and incubation participants** needs to be improved. Publishing the success stories and journeys of the participants during the program can increase the visibility of the program and attract more SMEs to join the digital hub network. This relates to the importance of follow-ups with the **alumni community.** One idea is to organize **social projects** involving alumni to strengthen the bonds between participants and bring benefits to the community.

In the mentoring session, participants suggested that mentors should do some **research** on the participants' companies before the session starts. With a better understanding of the participants' businesses, mentors can provide advice that is more relevant and specific to the needs of each business. This will increase the effectiveness of the mentoring session and help participants get more suitable solutions.

Encouraging collaboration between participants is also an important improvement point. **Regular peer-to-peer sessions with fellow participants** are needed to facilitate learning from each other's experiences and challenges faced by each business. This activity can also open up collaboration opportunities that are beneficial to their business.

The feedback relates to the business owner's need for a **sparring partner** in addition to a mentor. This sparring partner is envisioned to be someone with whom business owners can discuss business strategies, test their ideas and get constructive feedback and critical inputs to help solve problems.

Overall, the feedback given by participants was positive. However, improvements are needed so that in the future the program can be more effective and useful for digital entrepreneurs.

2 DIGITAL LITERACY TRAINING

Program Description

The digital literacy training is designed to support the vision of Indonesia Emas 2045, including bureaucratic reform in government administration. The program is aimed specifically at government employees or state administrators, with the hope of providing knowledge and developing skills in the field of digital transformation, especially in relevant ministries. The goal is to improve the quality of human resources in government agencies, so that they are able to play an active role in accelerating digital transformation in Indonesia.

The program not only covers the basic knowledge of digital transformation, but also discusses the implementation of digital ecosystems in public services, particularly in government. This includes the use of technologies such as blockchain, data security, and data privacy, which can improve the efficiency and effectiveness of government agencies. The main point raised was the digitization of government administration as a public service that can be accessed by the public in a comprehensive and integrated manner. This relates to improving the knowledge and skills of state officials in the field of digital transformation.

Curriculum

The digital literacy training material was designed by Qiwii Digiact as the module owner, which is then used as a foundation of knowledge for government employees in the field of digitization of public services. The module includes 4 materials, namely:

MATERI	SUB-MATERI
Introduction to Digital Transformation	• The Urgency of Digital Transformation • Digital Transformation Measurement • Digital Transformation Expectations • Digital Transformation Resistance
Types of Digital Infrastructure Supporting Public Services	• *Hardware* • *Software* • *Website* • *E-procurement* • *Data Management*
Digital-based Public Service Management	• Digital Queue • Digital Registration • Digital Data Verification • Customer Satisfaction Survey
Building a Secure and Convenient Digital Public Service System	• Data and Information Verification • Blockchain technology • Data Privacy and security • Collaboration according to netiquette • Preventive efforts and countermeasures in the digital world

From the module above, it is expected to receive outputs that focus on basic understanding of the digital ecosystem in Indonesia, including an understanding of the basic knowledge of digitalization that increases the enthusiasm of participants for the development of digital technology.

In addition, the module also provides outputs in the form of knowledge about the type of infrastructure as a supporting facility for digital transformation and the operationalization of digital infrastructure, as well as meeting the needs of government employees in understanding the flow of digitization services and improving capabilities in public digital systems. In addition, the designed module provides a new perspective on the point of view of implementing safe and convenient digital public services.

Piloting Program

The implementation of digital literacy training pilot has been carried out offline in February 2024. In the implementation of this pilot, Hi Incubator collaborates with Qiwii Digiact as a module developer and Markas Jakarta as a hub located at Midpoint Place, Central Jakarta.

The main target participants in the digital literacy training pilot activities are central government employees, especially ministries. The activity was attended by 32 participants including the Ministry of National Development Planning/Bappenas, Ministry of Communication and Information, Ministry of Home Affairs, Ministry of Health, Coordinating Ministry for Political, Legal and Security Affairs, Ministry of Foreign Affairs, Ministry of Administrative Reform and Bureaucratic Reform, Ministry of Education, Culture, Research and Technology, Ministry of Finance, Ministry of Law and Human Rights, Development of Disadvantaged Regions and Transmigration, Ministry of Tourism and Creative Economy, DKI Jakarta Province, State-Owned Enterprises, and Ministry of State-Owned Enterprises.

The four materials of the module were presented by 4 experts and practitioners, among others:

1. Ikra Amnesta, DigiAct Mentor
2. Istia Budi, CEO Media Kreasi Abadi
3. Maryeni Auliyanti, CBDO Qiwii DigiAct
4. Dea Saka, Founder Belajar Blokchain

From the implementation of this pilot activity, it can be seen that the government as a public service provider already has digital infrastructure. With the digital literacy training, government employees, especially ministry employees, can know how to operationalize the existing infrastructure to support the acceleration of digital transformation.

In the activity, pre-test and post-test evaluations were carried out, where in the pre-test the average participant score was 82 and the average post-test score was 96. This shows an increase in cognitive understanding by 14%, so it can be concluded that the training activities, modules, presentations, and discussions carried out have a positive effect on the skills of public servants.

Recommendation

Digital literacy training is clearly beneficial in increasing public servants' knowledge in the field of digital transformation. The module developed by Qiwii Digiact and Hi Incubator has had a significant impact on the information needs of public servants.

This of course supports the performance of government administration, which will have a long-term impact on a sustainable digital ecosystem. Therefore, Digital Literacy Training activities are highly recommended to be implemented in the hub network in the Digital Hub Network, because it can help to accelerate the digitalisation within the scope of government employees.

3 NETWORKING EVENTS

Program Description

Networking events are designed to bring together digital entrepreneurs, small and medium enterprises, national and local governments, industry, universities, and local and international communities.

This program is not just a meeting occasion, but also a form of support for digital entrepreneurs to gain access and connections to stakeholders who have the potential to support the growth of digital entrepreneurs.

In the context of the digital ecosystem, the Indonesian government needs to focus on improving efficiency and effectiveness from upstream to downstream. Facilitating collaboration among stakeholders can trigger the contribution of the digital industry and add value to economic growth.

Curriculum

In each of the networking events, there is a panel session with a selection of themes. These are modified and customized according to the location, the attendees, and the invited experts or practitioners.

These sessions serve as a platform for experts and practitioners, especially digital entrepreneurs, to share knowledge and discuss challenges and propose ideal solutions for a sustainable digital ecosystem.

a Jakarta Networking Event

The networking event held in Jakarta was themed 'Uniting Digital Vision for Global Entrepreneurial Success'. The event aimed to connect stakeholders in the digital ecosystem to collaborate to minimize the digital divide, reduce disparities, and provide opportunities for all population groups to take advantage of digitalization opportunities.

With regard to the Expansion Lab program, this networking event showcased the long-term cooperation between Jakarta and Berlin. Specifically, both sides emphasized digital transformation efforts through an international cooperation approach. As concrete evidence, there was a knowledge exchange on existing technologies in Germany as well as the elaboration of the local context of stakeholders in Indonesia.

This topic is in line with the existence of the Digital Hub Network, which provides access and opportunities for every element of society, be it individuals, groups, businesses, and institutions to discuss and grow together.

b **Bali Networking Event**

The networking event held in Bali was themed 'Digital Transformation for SMEs and Digital Entrepreneurs'. The event focused on the issues and challenges that local small and medium enterprises have and the solutions to overcome these problems. Hence the discussion focused on digital transformation and its role in the growth of SMEs and digital entrepreneurs, including the topic of blockchain and local communities.

In this case, Hi Incubator initiated thematic discussions divided into 5 categories, namely international cooperation, community building & partnership, government cooperation, SME incubator opportunities and collaboration, and Techmaker Lab. This thematic approach was designed to have outcomes that support participants' engagement with topics that match their interests, expertise, and organizational or business goals.

Within each thematic group, participants had the opportunity to engage in discussions and network with fellow business owners, government agencies, investors, and support organizations that had an interest in the same topic, so that modules could be discussed in an organized manner.

Piloting Program

Networking events were held offline twice in two different provinces, namely in Jakarta in January 2024 and in Bali in May 2024. The implementation of the pilot networking event was conducted in two different regions to show that each region has a different ecosystem, culture, and topic focus according to the local context.

a **Jakarta Networking Event**

The pilot implementation of the networking event in Jakarta was held on January 17, 2024. In the implementation of this pilot, Hi Incubator collaborated with Betahaus as part of AsiaBerlin as an international partner for the sister city partnership between the cities of Jakarta & Berlin. The networking activity was held at Jakarta Future City Hub as one of the local hub partners in Jakarta located at Jakarta Box Tower, Central Jakarta.

The event was attended by more than 70 participants consisting of national and local government agencies, business founders and small and medium enterprises, corporates in Jakarta, and representatives of agencies and communities.

The Jakarta Networking Event also coincided with the 30th anniversary of the partnership between Jakarta and Berlin, making it a special moment to showcase the cooperation and common goals between the two parties.

There were 4 experts and practitioners in the panel session

- Ilham Habibie - Hi Incubator
- Nicko Widjaja - BRI Ventures
- Katka Nagrova - Betahaus
- Arya Setiadharma - Prasetia Ventures

From the implementation of this pilot activity, it can be seen that the participants who attended were enthusiastic about the themes raised, especially those related to the entrepreneurial ecosystem, as well as getting networking opportunities with fellow business owners who have similar interests.

b **Bali Networking Event**

The Bali networking program was implemented offline on May 15, 2024. In the implementation of this pilot, Hi Incubator collaborated with Denpasar Creative Agency (Bkraf), National Creative Economy Movement (Gekraf), Bali Blockchain Center, and Dharma Negara Alaya as a hub location located in the city of Denpasar, Bali.

The target participants in this networking activity in Bali were more or less the same as the target participants in Jakarta, but emphasized on the ecosystem in Bali including representatives of government, business, small and medium enterprises, and the Bali local and international community. The event attracted 70 participants from local communities engaged in digital transformation.

To support the spirit of inclusivity of the Digital Hub Network program, networking events are not only held in the capital city, but also in locations where there is potential for a sustainable digital ecosystem. It is clear that Bali is an attractive location for entrepreneurs, especially small and medium enterprises.

There were 3 experts and practitioners in the panel session

- I Putu Yuliartha, Ketua Harian Badan Kreatif Denpasar
- I Gede Putu Rahman Desyanta, Coordinator Bali Blockchain Center, CEO Baliola
- Gusti Putu Bayu Susila, Ketua Gerakan Ekonomi Kreatif Nasional

From the implementation of this pilot activity, it is clear to see that Indonesia's digital ecosystem, especially in Bali, has experienced rapid growth. This can be seen from the development of blockchain communities, web3, and digital businesses.

Recommendation

Networking events bring benefits to the digital ecosystem, providing access to fellow business owners, small and medium enterprises, government agencies and communities. This can be seen from the high interest of participants in networking events in both Jakarta and Bali.

In concrete terms, the majority of feedback obtained from participants was satisfactory and there was demand to continuously hold networking events. Participants felt that by attending networking events, they could learn first-hand from case studies, get potential use cases, and meet potential clients or partners. On the other hand, investment instruments such as venture capital and angel investors gain visibility and access to local and international digital entrepreneurs.

This shows the function of networking events as crowd-pullers for the digital ecosystem. Digital Hubs can be a conducive space to facilitate meetings, discussions and collaborations. Therefore, the networking event module is highly recommended to be implemented in every digital hub for the sustainability of the digital ecosystem.

4 DEMO & SHOWCASE

Program Description

Demo & Showcase Day aims to give SME Innovation Incubator participants the opportunity to introduce themselves and their businesses, as well as showcase the products they have created. In this program, participants have a platform to showcase their innovations and accomplishments.

The program not only provides exposure to participants, but also allows them to receive direct feedback from experts, investors, and the wider business community. With this event, participants can build stronger networks, find partnership opportunities, and gain wider support to grow their business.

This is related to elevating the profile and reputation of SME Innovation Incubator participants' businesses in the eyes of the public and stakeholders. By showcasing their products in person, participants can demonstrate their competitive advantage and how their innovations can provide real solutions in the market. Direct interaction with a diverse audience also helps participants to understand how their products are being received and where improvements can be made.

Piloting Program

The event was attended by 121 participants including corporates, startups/entrepreneurs, small and medium enterprises, ecosystem builders, government, and international support organizations in an interactive and vibrant atmosphere.

This pilot event brought together experts and practitioners to discuss the digital ecosystem, including:

- Ilham A. Habibie - Co-Founder Hi Incubator
- Claus Karthe - CEO & Founder of Start2 Group Asia
- Marten Rauschenberg - Interim CEO AsiaBerlin Forum
- Daniel Schröder - Project Lead Digital Transformation Center Indonesia
- Nino Fernandez - Founder & CEO of Kruuu
- Christian Sutardi - Co-Founder Kopi Kenangan and Kopital Ventures
- Samantha Tedjosugondo - Vice President Sweef Capital

From the implementation of this pilot activity, it was seen that by integrating the demo & showcase into The Good Times event, incubator participants not only got the opportunity to showcase their products and innovations, but could also interact directly with various parties who can potentially provide support and cooperation.

This creates space for SME Innovation Incubator participants to optimize business opportunities and expand professional networks, as they can receive direct feedback from various stakeholders. Input from experts, investors, and fellow entrepreneurs is invaluable for product and business strategy improvement. This feedback can serve as a reference point to refine ideas and innovations so that they better suit market needs and customer expectations. This hands-on evaluation also helps participants to better understand their position in the market and identify areas for improvement.

Recommendation

Demos and showcases are highly recommended to be implemented on a regular basis within the digital hub network to provide digital entrepreneurs with a space to interact with the community in the digital ecosystem. By participating in this event, participants can build a strong network, receive feedback on their products or solutions, seek cooperation opportunities, and get wider support to grow their business.

The demo day provided a win-win solution for both participants and the general public, including especially the government sector and investors who attended. This can be seen from the high enthusiasm of the audience for the demonstrations and showcases shown by the participants.

5 DIGITAL SANDBOX

Program Description

Digital sandbox aims to provide a safe and controlled environment in the form of a closed loop ecosystem, where solution developers can test and develop new digital technologies without disrupting actual operational systems. This concept enables experimentation and rapid iteration, to drive innovation in a more flexible and secure way.

The following digital sandbox module is suitable for implementation in digital hubs as innovation centers, enabling public-private partnerships between regulators and solution developers to test and refine new technologies. Policymakers and regulators can use this concept to study the impact of new technologies, provide feedback, and facilitate more informed and adaptive policy implementation.

Program Curriculum

Perum Peruri in accordance with Presidential Regulation No. 82/2023 concerning Acceleration of Digital Transformation and Integration of National Digital Services mandates PT Peruri Digital Security (PDS) to be the developer or digital factory to assist Perum Peruri in developing SPBE and collaborating with ministries such as the Ministry of PPN / BAPPENAS and the Ministry of Administrative and Bureaucratic Reform of the Republic of Indonesia which handles the policy side needed.

One of the outputs expected by Peruri Digital Security is the creation of a curriculum and implementation of the Peruri Sandbox program. Peruri Digital Security as the use-case owner is working with Hi Incubator in developing digital sandbox module materials under the umbrella of the Digital Hub Network collaboration initiated by GIZ & Ministry of PPN / BAPPENAS.

Peruri Sandbox is designed with the aim of becoming an innovation development platform for digital entrepreneurs to encourage accelerated transformation in the public sector and integration through SPBE Indonesia. The topics that are the focus of the Peruri Sandbox include digital payments, digital identity, priority public services, health digitization, and education digitalization.

Piloting Program

The implementation of the digital sandbox pilot was carried out in the corridor of cooperation between Hi Incubator and PDS to develop the Peruri Sandbox concept as one of the recommended modules in the Digital Hub Network service. Peruri Sandbox is designed with reference to utilizing Peruri Digital Hub as a closed loop ecosystem for the implementation of digital technology solutions and SPBE implementation.

The Cooperation Agreement between Hi Incubator and PDS covers the cooperation scope, the roles of both parties, and also data sharing for the development of Peruri Sandbox. The cooperation agreement aims to ensure that the implementation of the Peruri Sandbox to be carried out remains in line with the corridors of SPBE and the series of activities of the Digital Hub Network.

The arrangement of program materials designed in the digital sandbox module is intended as a guideline for knowledge gathering and implementation of the digital sandbox module for program implementers, regulators, and the participating private sector. The points in the program material structure include identification of key elements, marketing and outreach strategies, screening process, mentoring and workshops, and demo day.

1. The process of identifying digital sandbox elements is carried out together with the PDS team in line with SPBE implementation planning. Key elements of the Peruri Sandbox include types of businesses, forms of cooperation, the role of government and the private sector in innovation, business models, stakeholders, and focus sectors in the SPBE ecosystem.
2. The marketing and outreach strategy in the Peruri Sandbox implementation was designed to work with the digital hub network to capture digital entrepreneur participants involved in each digital hub.
3. The screening process aims to find digital solutions that fit the SPBE implementation criteria efficiently and effectively. The criteria are set in line with key elements, namely the size and level of profitability of the organization, the type of solution according to the main topics in the sandbox, scalability, and solution/product readiness.
4. Mentoring activities aim to provide guidance and mentoring for digital entrepreneurs to improve the quality of their services or products and to ensure alignment with regulatory SPBE needs.
5. Demo Day aims to demonstrate digital solutions that have gone through the integration and implementation process into the Peruri Digital Hub closed loop ecosystem. This activity provides an opportunity for experts, investors, and the wider business community to provide constructive feedback, as well as collaboration and business investment opportunities.

Recommendation

The Peruri Sandbox module in its development phase will need to involve other stakeholders who have a role in SPBE strategy and implementation at large. Some of the partners that can be identified for discussion include the Satu Data Indonesia team of the Ministry of PPN/Bappenas and the Digital Transformation Office team of the Ministry of Health, which is developing a sandbox for health technology. In addition, following the development of the digital sandbox module, PDS and Hi Incubator are encouraged to look for opportunities to implement the Peruri Sandbox module beyond the scope and timeline of the Digital Hub Network project. This can be done by finding government partners or international partners to support implementation.

0.6

Recommendation & Conclusion

Recommendation & Conclusion

SUMMARY OF DIGITAL HUB NETWORK

- Based on an initial study conducted by Digital Transformation Center Indonesia, the need for digital hub structures across Indonesia has been identified.
- Digital hubs are intended as centers of collaboration and innovation for local digital ecosystems, providing innovation space, technology infrastructure, and improved education and training to keep communities competitive in the digital era.
- There are 3 types of business model classifications that have been identified according to the type of legal entity of the digital hub operator, namely private industry, government, and SOEs / ROEs. The main difference of the following types of business model classifications lies in the value proposition and revenue stream.
- The target users of the digital hub are divided into 2 categories, namely early adopters and advanced users.
- Early adopters include MSME Entrepreneurs & Digital Entrepreneurs
- Advanced users include Government, Academia, and Business Practitioners
- The main needs identified by target users for a digital hub include networking, robust mentoring, access to markets, government support, funding, space & safety, and digital talents.
- There are 3 key elements in a digital hub concept, namely the ecosystem, physical facilities and spaces (hardware), and support program services (software). This document outlines the activity modules that can be adopted in a digital hub.
- The minimum criteria for a digital hub in terms of physical space include accessibility and surrounding environment, sustainability, location opportunities, and design.
- The minimum criteria for a digital hub in terms of determining collaboration in the implementation of hub activities include funding, programs, content, and contributions.
- This document outlines 5 service modules that can be implemented in the development of digital hubs in Indonesia, namely the SME innovation incubator program, digital literacy training, networking events, demo & showcase, and digital sandbox.

GENERAL RECOMMENDATION OF DIGITAL HUB NETWORK

- Each hub within the Digital Hub Network in Indonesia should have a unique advantage and focus on one specific expertise or topic. This approach will help each hub to develop expertise and become a reference center in its respective field. Here are some recommended specifications:
    - Community Building: A hub that acts as a center for digital community development, through various activities such as workshops, seminars, and incubation programs that aim to strengthen networks and collaboration between individuals, startups, and organizations engaged in technology. Through this approach, it is expected to create a strong ecosystem and support the sustainable growth of the digital community.
    - Smart City: Focuses on developing and implementing technology solutions that can improve efficiency and quality of life in various parts of Indonesia. This includes initiatives such as city management, integrated management systems, and technology-based public services.
    - Digital Transformation: A hub for organizations looking to digitally transform. This hub can provide consulting services, training, and development of technology solutions to help companies and government agencies adopt digital technology in their operations.
    - Blockchain: An innovation hub for blockchain technology in Indonesia. This hub can develop the blockchain ecosystem, accelerate the adoption of the technology in various sectors, and provide education and training to individuals and organizations.
    - Creative & Art: Support the development of the creative and art industry in Indonesia. The hub can be a gathering place for artists, designers, and creators to collaborate, innovate, and present their works. In addition, the hub can also organize exhibitions, festivals, and residency programs to encourage the growth of a dynamic and competitive creative industry.
- The transformation of public services to digital platforms, strong support for startups and Micro, Small and Medium Enterprises (MSMEs), and improved cybersecurity are integral parts of the plan. Through these strategies, Indonesia aims to create a sustainable economy, open up job opportunities in the digital sector, and improve people's welfare through the use of technology.
- Improvement and replication of the digital sandbox concept and cooperation with Peruri Digital Security in line with the implementation of SPBE that will be implemented by partners in the future.

SPECIAL RECOMMENDATION TO THE GOVERNMENT ON DIGITAL HUB NETWORK

- The benefits and ecosystems gained from existing digital hubs can be used by the Government to improve public services, reduce bureaucracy, and optimize spending rather than setting up the ecosystem from scratch.
- Digital Hubs and the ecosystem can be used as a forum for discussion and feedback with the public and the community at large for the formulation of government policies.
- Propose and support the preparation of budget for digital hub projects by local government to be implemented and developed in various regions in Indonesia.
- Utilize the Digital Hub as a place to collect and analyze data related to digitalization, as a policy consideration that can encourage Indonesia to implement a data-driven policy scheme.
- The digital hub concept can be utilized by government partners, SOEs, and BUMDs to utilize a number of unused assets to build and run active community spaces to drive local economic growth and digital ecosystems.
- Efficient use of existing hubs before building new hubs, public-private partnerships can be applied in the use or empowerment of existing digital hubs.
- Support for policies that maximize ecosystem and access and collaboration between government and private sector such as SPBE.
- The concept of digital hubs and daily interactions with digital hubs or cooperation with digital hubs can be utilized by the government in policy development, or for conducting impact studies of a digital policy.
- Programs and support for activities that directly or indirectly support digital transformation.
    - Certification and matchmaking activities between private stakeholders, SOEs, or government agencies.
    - Assistance in the form of guidance and advice in open and closed forums in the ecosystem conducted with the digital hub.
    - Active in organizing networking events or similar to bring together the private sector, the community and also the government. This activity can also be used for policy socialization and at the same time monitoring the development of innovation, and digitalization.
- Connecting hubs can foster collaboration, innovation and knowledge sharing. The following activities can help in forging closer cooperation between hubs:
    - Virtual networking events
        - Organize regular online meetings where digital entrepreneurs from different hubs can introduce themselves, discuss ideas, and explore collaborations.
    - Inter-hub mentorship program
        - Develop a mentor exchange program where relevant mentors from one hub provide mentorship to startups in another hub
    - Business Accelerator Program between hubs
        - Create an accelerator program that rotates between one hub and another within the digital hub network to allow startups to benefit from different networks, working environments and resources.

    - Special themed webinars and workshops
        - Organize webinars or workshops on specific topics by different hubs on a rotating basis. This way each hub can share its specialized knowledge or expertise with participants from different hubs.
    - Sharing resources between hubs
        - Develop a digital platform where all hub members can access databases, resources, and best practice findings to develop a collaborative ecosystem.
    - Inter-hub innovation competition
        - Develop a competition where digital entrepreneurs from different hubs can pitch their ideas to a panel of judges from different hubs. This activity can increase visibility and increase investment opportunities for startups.

- Documented and official verbal and oral support through the digital hub partnerships that have been established during the Digital Transformation Center program.
    - Verbal support does not require a direct MoU from the government, but provides legitimacy and validation that can benefit digital transformation programs, SMEs, and activities.
- Create an association, community, or agency that aims to drive digitalization and innovation in line with Indonesia's RPJMN and RPJPN.
    - It is supported and monitored by the government but is not directly connected to it so that it can more freely cooperate and receive support from the private sector, non-governmental organizations, and communities from various sectors and backgrounds.
    - The government can provide a platform and support for collaboration, innovation, and cooperation among digital entrepreneurs and with the government through a series of activities in the Digital hub.
    - The association created can consist of:
        - media parties for socialization and social outreach
        - Digital entrepreneurs for innovation and collaboration
        - Government as a director and advisor as well as a forum for innovation
        - Academics in policy and technology research
        - Communities and NGOs to represent the aspirations and interests of the general public

- Recommended 9 steps to create an incubator or digital sandbox program
    1. Define objectives and supporting policies
        - Define the vision and mission and vision of the incubator or digital sandbox program
        - An organizational structure such as an advisory board and a decision-making body such as an Investment Committee (IC) is needed.
        - Policies are needed regarding the criteria for companies that can join the program, how to monetize the business, funding, the amount of equity that the incubator will take, and the types of services or facilities provided.

2. Identify targets
    - Set measurable goals (number of digital entrepreneurs in each year, success rate, job creation, and investment raised)
    - Develop key performance indicators (KPIs) to monitor and track progress and outcomes
3. Define the core values of the incubator or digital sandbox program
    - Define core values such as innovation, digitization, collaboration and sustainability
    - Ensure that the values are embedded in all activities, communications, and partnerships
4. Candidate Selection
    - Develop digital innovation selection criteria with a focus on market potential, team strength, level of innovation and scalability
    - Implementation of a rigorous selection process including application review, interviews, and pitches from potential participants
5. SWOT Analysis
    - Apply SWOT analysis to identify strengths, weaknesses, opportunities, and threats to the incubator or digital sandbox program.
6. Create a comprehensive support system
    - Offer mentor guidance from experienced practitioners and industry experts
    - Provide access to funding through investors, grants, loans, and venture capital
    - Offer meeting rooms, workspaces, administrative support, and business development services
7. Develop networks and cooperation
    - Build collaborations with universities, research institutions and related industry partners
    - Facilitate networking activities, workshops, and collaboration opportunities between program participants
8. Government involvement
    - Collaborate with city, provincial and national governments to secure infrastructure, policy and funding support
    - Promote policies that support innovation, including tax incentives, grants, and policy support that encourages innovation and digitalization
    - Engage government agencies in activities to increase program credibility and visibility
9. Monitor, evaluate and adapt
    - Regularly monitor and review program performance and resulting innovations both during the program and post-program.
    - Gather feedback from all stakeholders to identify areas for improvement
    - Adjust strategies and services to meet evolving market needs.