2023 Taiwan Startup Ecosystem Survey

Bolstering corporate cooperation, stimulating mature startup development

Organizers

pwc 資誠

台灣經濟研究院 Taiwan Institute of Economic Research

Partner

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Words from the Organizers

PwC Taiwan and the Taiwan Institute of Economic Research have collaborated together since 2018 to conduct the annual Taiwan Startup Ecosystem Survey, which provides in-depth analysis and discussion of the current issues facing startups in Taiwan and also focuses on topical business trends and their implications for them.

The 2023 survey is the sixth one conducted to date. Previous editions have examined the unique challenges faced by startups (such as fundraising, going global and collaboration with larger companies) and also presented the views of other prominent stakeholders in the startup ecosystem, including investors, venture capitalists and incubators. The survey thus provides a comprehensive status overview of the evolving startup landscape in Taiwan and on directions for its future development.

Over the past decade, the rise of startups both domestically and internationally has coincided with the rapid adoption of AI and big data. Startups have not only spearheaded industrial transformation and upgrading but also played a pivotal role in driving advancements in business innovation. For Taiwan's traditional industries, they face questions such as on how to integrate the cutting-edge technological capabilities of startups with the vertical knowledge of their own sectors and to stimulate further innovation and upgrading. One answer is Corporate Startup Engagement (CSE), with its emphasis on collaboration between large and small enterprises.

This year's survey shifts its focus from Taiwan's larger enterprises to the small and medium-sized enterprises in the traditional manufacturing and service sectors. The aim is to understand how this sizable and important group of businesses can foster innovation by collaborating with startups and stimulate new industry ecosystems.

We extend our sincere thanks to Small and Medium Enterprise and Startup Administration, Ministry of Economic Affairs and our many other partners across the startup ecosystem for their support of the 2023 survey. We hope our latest report will help to foster engagement and communication between startups and policy makers, academic institutions, investors and industry sectors, with a view to promoting the continued robust development of Taiwan's startup ecosystem in the future.

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Key Findings

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AI/Big data
is the top keyword for entrepreneurs

77.3%
have raised funds and mainly in the angel and seed stages

AI and Startups

70.2%
have AI-related products, services, or daily operations

74.1%
of startup AI technology is developed in-house

Corporate Collaboration

81.5%
have experience of external collaboration

88.1%
say building model applications is the most effective form of project cooperation

Startup Profiles

1

Startup Characteristics and Entrepreneurial Trends

Entrepreneurs

73.9% first-time entrepreneurs

13.6 yrs industry experience

69.0% male

Startups

83.1% completed company registration

45.8% formed in last 5 years

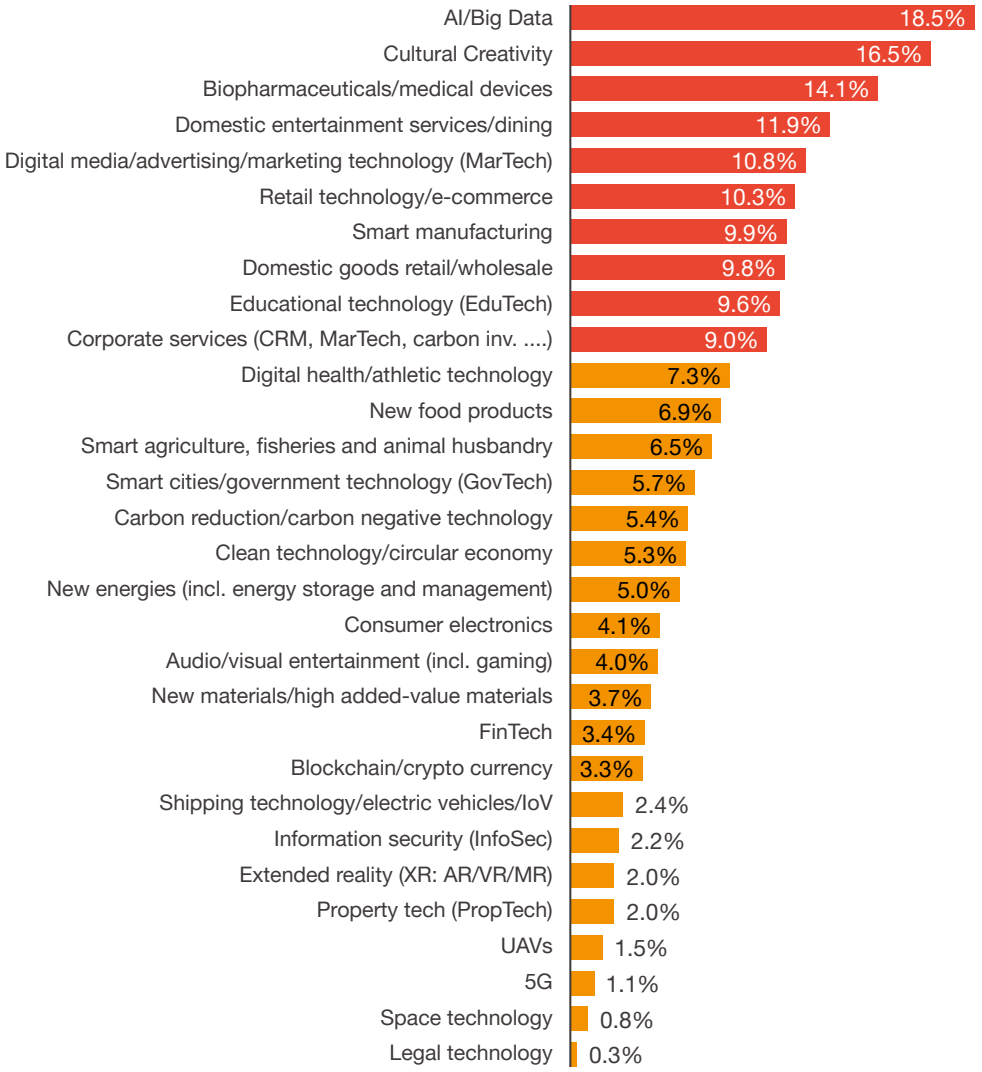
51.5% B2B business model

In the 2023 survey, startup entrepreneurs had an average of 13.6 years of previous work and industry experience. First-time entrepreneurs accounted for 73.9% of the total population, which is similar to previous surveys and other countries/regions with comparable startup ecosystems.

2023 Keywords, AI/Big Data remain at top

"AI/Big Data" was the top keyword for entrepreneurs in the 2023 survey. The top 10 were:

1. AI/Big Data (18.5%)
2. Cultural Creativity (16.5%)
3. Biopharmaceuticals/medical devices (14.1%)
4. Domestic entertainment services/dining (11.9%)
5. Digital media/advertising/marketing technology (MarTech) (10.8%)
6. Retail technology/e-commerce (10.3%)
7. Smart manufacturing (9.9%)
8. Domestic goods retail/wholesale (9.8%)
9. Educational technology (EduTech) (9.6%)
10. Corporate services (CRM, MarTech, carbon investment) (9.0%)

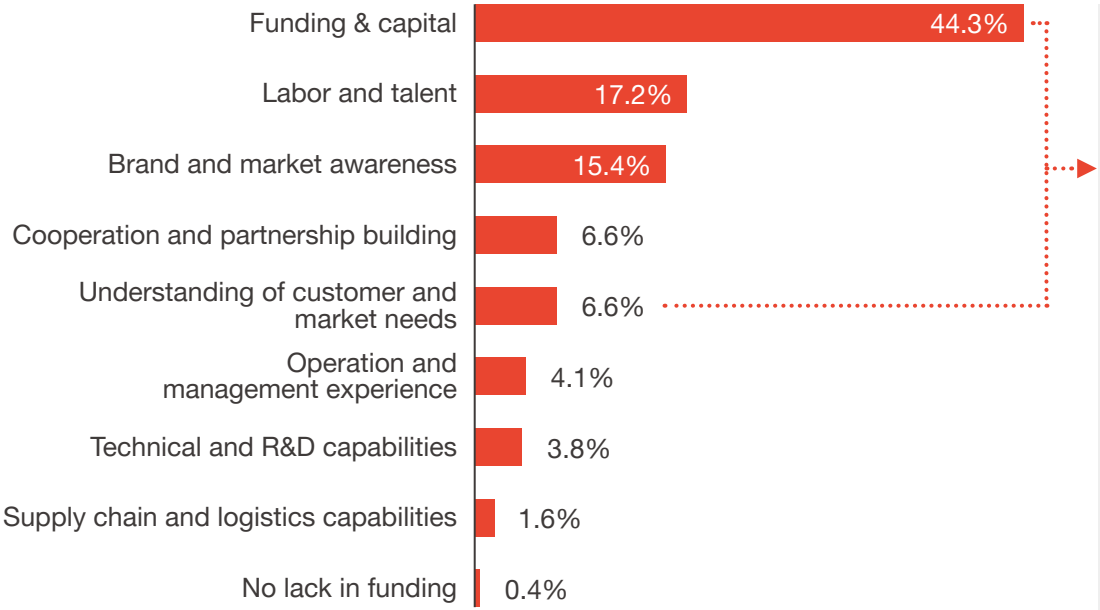


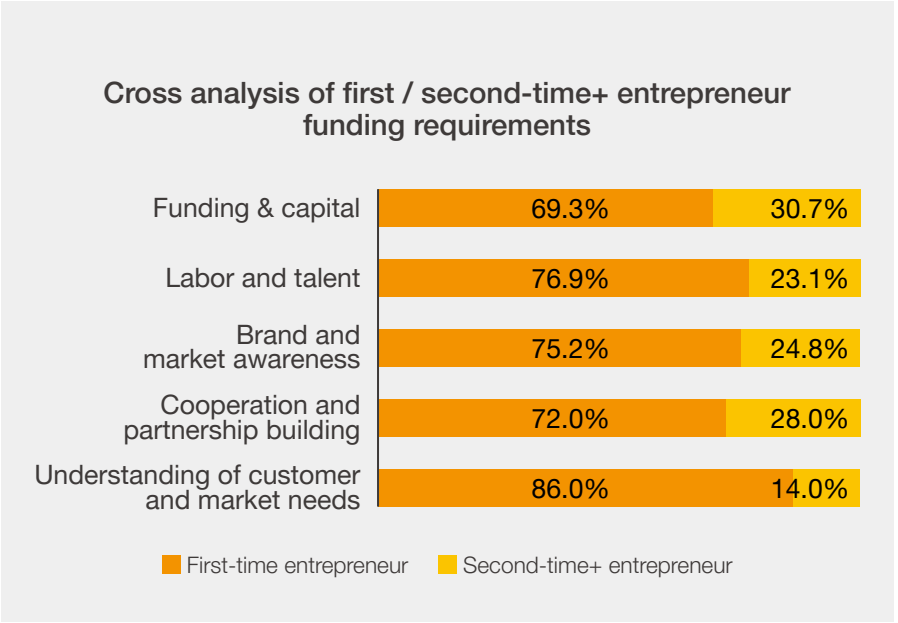
Q: Choose the fields out of the following keywords that are most relevant to your entrepreneurial items. (Check at most three) sample size = 758

Funds: Biggest Challenge for Startups

Surveyed startups said their biggest challenges are funding & capital (44.3%), followed by labor and talent (17.2%) and brand and market awareness (15.4%).

- Funding & capital is the biggest challenge for both first-time (69.3%) and second-time+ (30.7%) entrepreneurs.
- Brand and market awareness was cited by 86.0% of first-time and 14.0% of second-time+ entrepreneurs. The wide disparity indicates that many entrepreneurs do not have a solid understanding of their market and customers' needs before their first startup, yet this is a common characteristic among Taiwanese startup entrepreneurs.





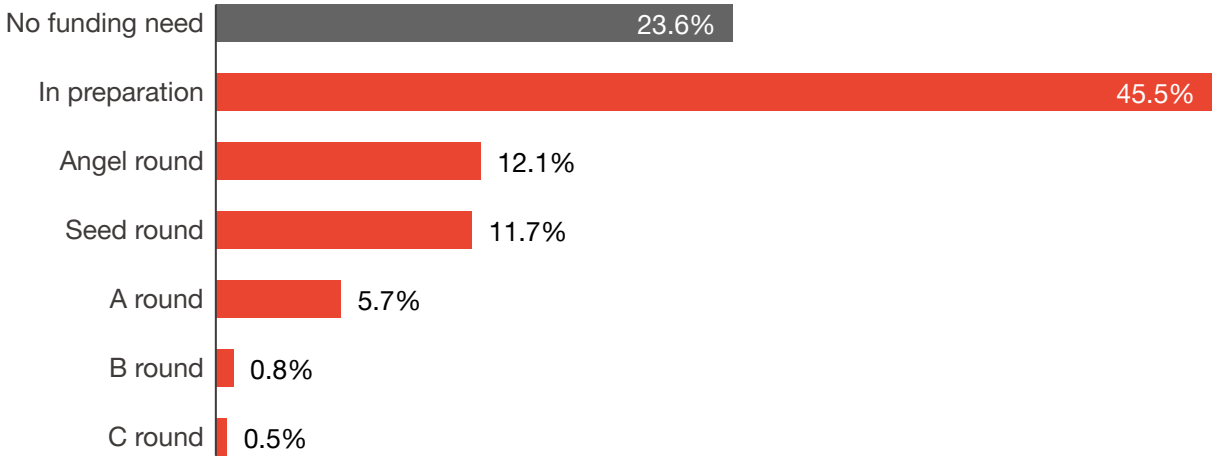
Q: Which resource(s) does your startup/team most lack at the current stage? sample size = 758

Funding Situation: Multiple Influential Factors

Aside from startups with no funding needs (23.6%), the survey found that 45.5% plan to raise funds externally and about 30% have already entered the funding stage. Of these, 12.1% were in the angel round, 11.7% in the seed round and 7.0% in rounds A and above. In terms of the investments received by startups, the total for the angel and seed rounds was 77.3%, highlighting that these were mostly early-stage investments.

As noted on the previous page, 44.3% of startups say they lack funding, compared with almost 70% who say they plan to seek funding or have no funding needs. Also, the average establishment time of startups in 2023 was about 3.5 years. Together, these figures confirm that startups lacking sufficient financial backing. This may be because their technologies or products are not mature enough or they lack a good business model. Also, investors or VCs may not be inclined to invest in early-stage startups.

Investments in startups worldwide have slowed due to heightened uncertainty caused by geopolitical tensions and rising inflation, according to the Global Startup Ecosystem Report issued by Startup Genome in June 2023. Investors are returning to a rational investment strategy toward startups and more carefully examining their value creation potential. To cope with this more challenging investment environment, startups should seek to raise their standards across the board, including the maturity of their products and services, and technologies, operations and management capabilities, and so on.



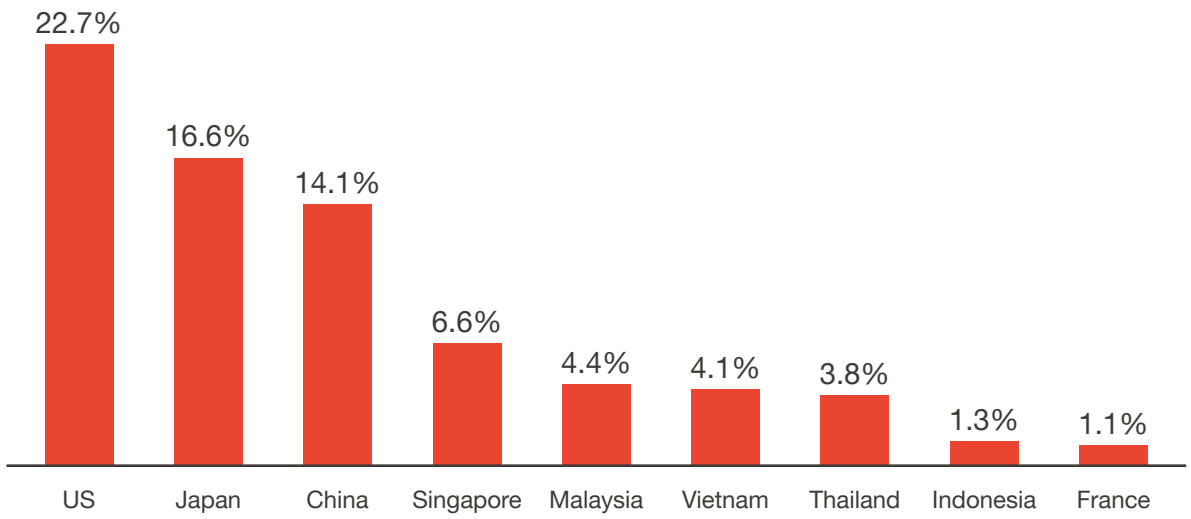
Q: What are the main reasons for choosing this country as your preference for overseas development? (Check at most three)
sample size = 613

Foreign Markets and International Development

US remains the top target overseas market for startups

- This year's survey found that more than 80% of new startups plan to expand into overseas markets.
- The top three targets are the United States (22.7%), Japan (16.6%) and China (14.1%).
- By region, East Asia remains the preferred market at 31.6%, followed by North America (23.0%) and Southeast Asia (20.7%).

East Asia	North America	Southeast Asia	Other	No plans for expansion/ still evaluating
31.6%	23.0%	20.7%	4.9%	19.9%
Japan, South Korea, China	US, Canada			

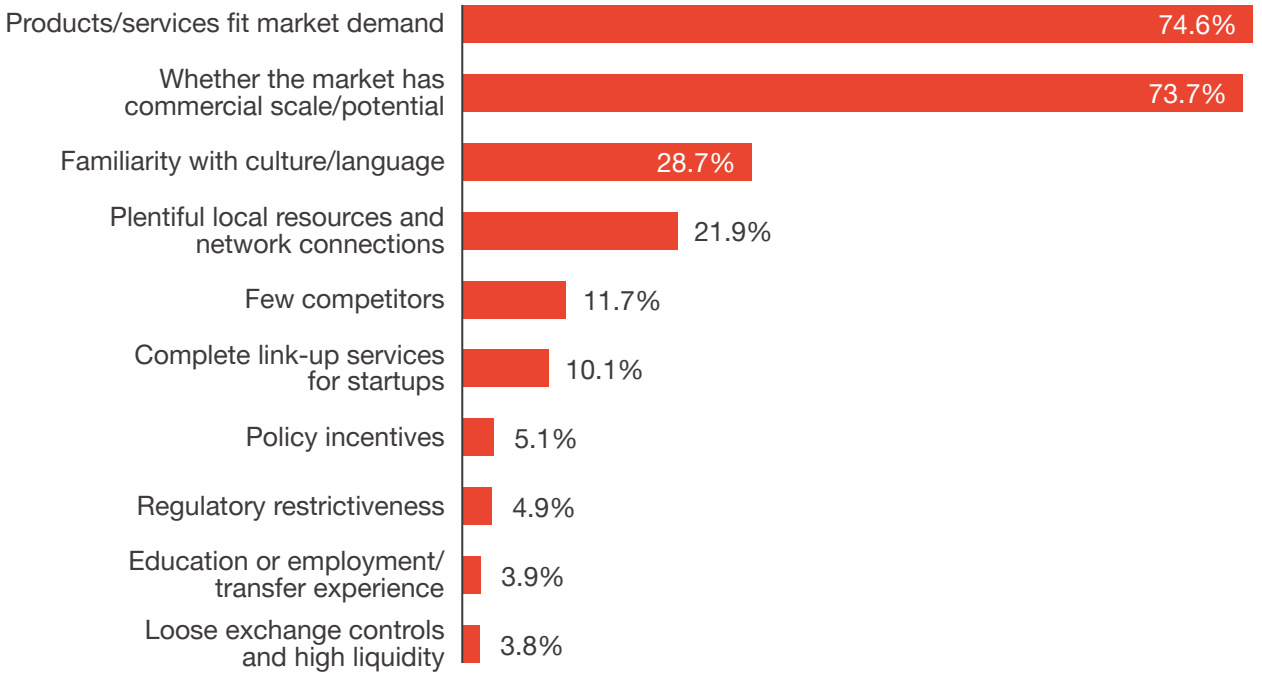


Q: What is your (current/future) preferred country for developing in the overseas market? sample size = 758

International Development: Understand Your Market

International development remains a major challenge for startups. The most important considerations for choosing to enter an overseas market include whether their products/services fit the local demand and whether the market has commercial scale and potential. This is consistent with the findings for the top three target markets of the US, Japan and China.

Startups going overseas need to acquire a deep understanding of their target markets, and so it's important they have access to market information and resources they can leverage for their planning.



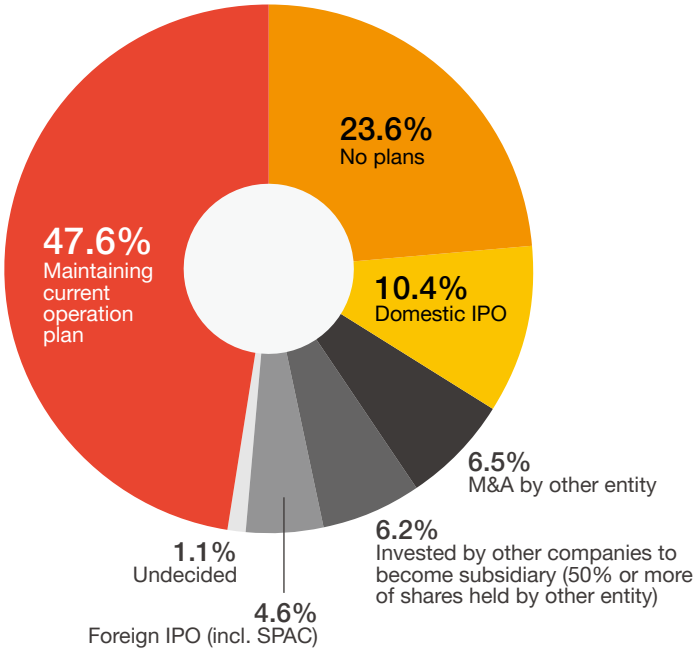
Q: What are the main reasons for choosing this country as your preference for overseas development? (Check at most three)
sample size = 613

Vision for Next 1-3 Years and Intent to IPO

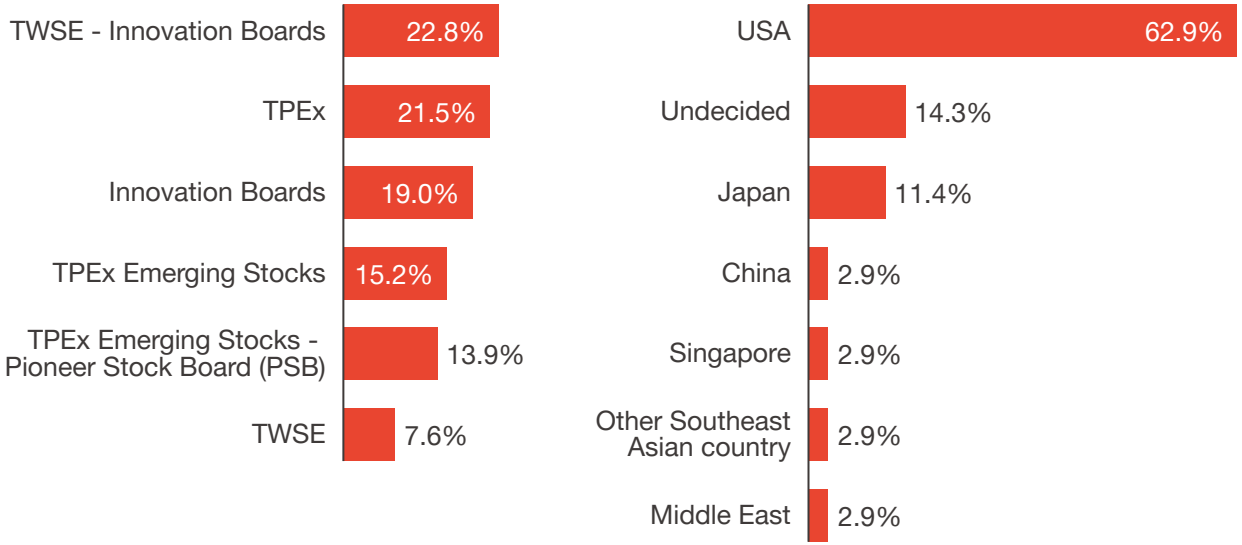
Looking ahead to the next 1-3 years, 47.6% of surveyed startups say they plan to maintain their current business plans, while 15.0% plan to undertake an IP0, either domestically (10.4%) or overseas (4.6%).

Startups intending to go public in Taiwan picked TWSE's Innovation Board (22.8%) as their top choice, while the Emerging Stock Board, which was the most popular choice in previous years, dropped to fourth place. The Innovation Board's lower qualification thresholds and other favourable criteria are more appealing to startups. As for foreign IPOs, 62.9% choose the US is the top location to publicly list.

It is worth noting that more than half of the surveyed startups have B2B business models, yet only 6.5% are open to M&A, and only 6.2% are willing to become investment subsidiaries of other companies or allow investors to hold over 50% of their shares. That may be because startups insist on a certain amount of autonomy in their operations. Yet, they should be open to dialogue and discussion to assess the possibilities and advantages of M&A for development.



Q: What is your stage-based (1-3 years) prospective plan for your current entrepreneurial items?
sample size = 758



Q1: Which market would you choose for a domestic IPO? sample size = 79
Q2: Which market would you choose for a foreign IPO? sample size = 35

IPO Location: Market and Funding are Key Considerations

When choosing a location to IPO, the two primary considerations for surveyed startups are “market” and “funding”. The survey results show that startups tend to give less consideration to factors other than markets or hidden costs, such as business environment and culture, customer channels, supply chains or other local factors.

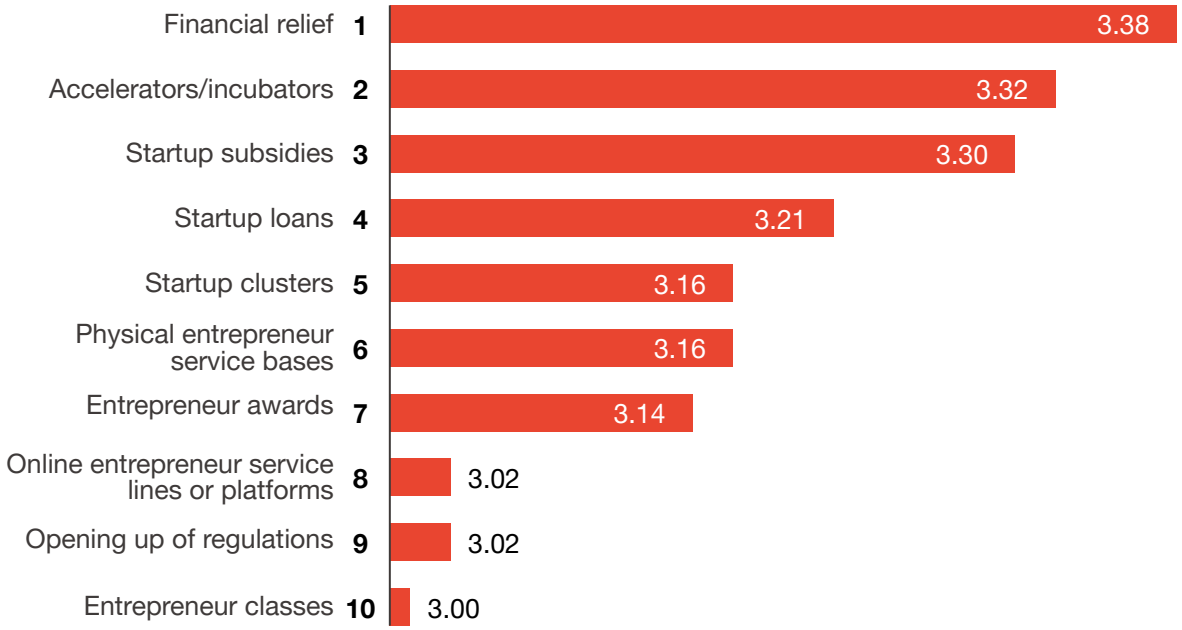
The proportion of surveyed startups that have entered the post-Series A funding stage is rather low at 7.0%, showing that most are still far away from going public. That is understandable since startup entrepreneurs generally only begin to think seriously about the costs, locations, and other options when readying for an IPO.

Q3: What is the primary reason(s) for your choice of market for IPO? sample size = 114

Recognition of Startup Policy and Guidance Resources

Focus on Financial Relief, Accelerators/Incubators and Startup Subsidies

Surveyed startups were asked to rate the helpfulness of available guidance resources, on a scale of one (low) to five (high). The top five they cited were: financial relief (3.38), accelerators/incubators (3.32), and startup subsidies (3.30), startup loans (3.21), and startup clusters (3.16).



Q: How helpful are the following startup policies recently promoted by the government for your startup? Rate how helpful the following policies are to your entrepreneurial project on a scale of 1 (low) to 5 (high).

Startup Policies and Major Guidance Projects

Guidance policies	Major guidance projects
Financial relief	Post-pandemic stimulus loans and startup preferred stock redemption extension
Accelerators/incubators	Incubators, TAcc+ accelerators
Startup subsidies	Small Business Innovation Research (SBIR) program, From IP to IPO (FITI) program, U-start Plan for Innovation and Entrepreneurship (U-start), Service Industry Innovation Research (SIIR) program
Startup loans	Young Entrepreneur Financing Loan, Micro-Business Startup Phoenix Program, small home business loan
Startup clusters	Linkou Startup Terrace, Yawan Startup Terrace (Kaohsiung), Taiwan Tech Arena (TTA), FinTechSpace
Physical entrepreneur service bases	Taiwan Startup Hub, Social Innovation Lab
Entrepreneur awards	Business Startup Award, Women Entrepreneurship Award, Rising Star Award, Taiwan SMEs Innovation Award
Online entrepreneur service lines or platforms	Startup Portal Taiwan web and hotline (0800-589-168), T-Cloud Marketplace
Opening up of regulations	Regulatory adjustment platform for startups
Entrepreneur classes	SME Learning, Entrepreneurship Concentrate-Spin off-Operation-Startup (EC-SOS) program

AI and Startups

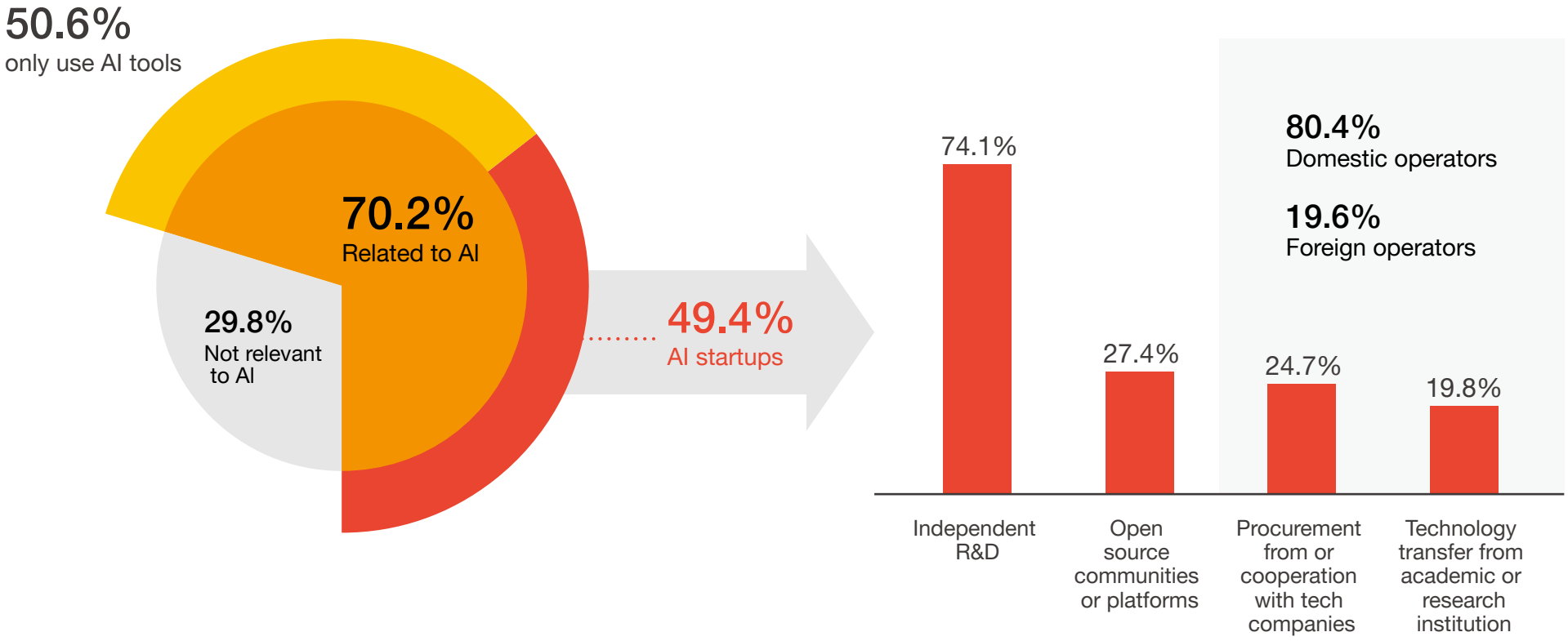
2

Startups & AI Correlation Up to 70%, With Independent R&D Capabilities

More than 70% of surveyed startups use AI in their products, services or daily operations.

Some 50.6% only use AI tools for their daily operations, and 49.4% provide customers with AI-related tech, products, or services (AI startups).

The primary technology source for AI startups is independent R&D (74.1%), followed by open-source communities or platforms (27.4%). Upstream suppliers for external procurement or technology cooperation and transfers are mainly domestic operators (80.4%), showing that Taiwan's AI tech industry chain is beginning to take shape.



Q1: How relevant are the "products/services" your startup provides to AI? (Check all that apply) sample size = 758
Q2: What is your company's main source of AI technology? (Check all that apply) sample size = 263

AI Startups Targeting Industries with Extensive Data

AI startups are targeting industries with extensive data to help bring about transformative changes. The top five industries for AI startups are health care, advertising and marketing, manufacturing, retail and logistics, and agricultural technology.

These startups use data applications and technologies such as image and vision recognition, smart customer services and virtual assistants, and automated production to help industries to raise product quality while reducing production costs and encouraging technological innovation.

Application technology	
Image and vision recognition	39.9%
Smart customer service and virtual assistants	30.8%
Automated production	25.1%
Quality control and inspection	21.3%
Production analysis and optimization	20.5%
Predictive inspection of machinery/equipment	19.0%
User analysis and personalized marketing	19.0%
Automated content writing or video editing	14.4%
Social media monitoring and public opinion analysis	13.7%
Disease diagnosis and prediction	12.5%

Industry application	
Health care	31.9%
Advertising and marketing	28.1%
Manufacturing	25.5%
Retail and logistics	22.1%
Agricultural technology	14.8%
Entertainment media	12.2%
Energy	10.3%
Finance and insurance	9.9%
Transportation services	8.4%
Travel and tourism	8.0%

Q1: What functions or applications does your startup provide customers through products or services using AI technology? (Check at most five) sample size = 263

Q2: Cont.: customers for your company’s AI tech products or services are from which industries/fields? (Check at most five) sample size = 263

Focus on Combination of Innovation and Efficiency

The top three fields in which startups use AI tools are content creation (51.8%), marketing/sales (43.6%) and R&D/design (38.0%).

51.8%
Content creation

- Cut production time and costs
- Big data analysis and learning models for automated generation of content
- Analyze content, provide suggestions for changes

43.6%
Marketing/sales

- Analyze consumer behavior and preferences
- Construct prediction models for best product combinations
- Provide product differentiation analysis to help increase market share

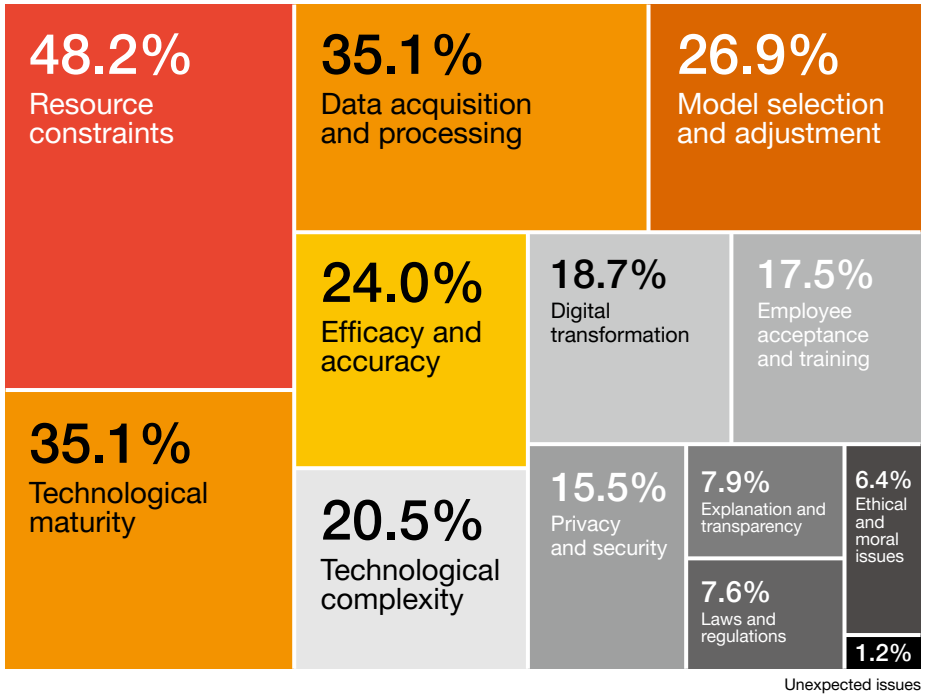
38.0%
R&D/design

- Build product development, for example, for code generation, debugging, documentation, and testing
- Facilitate innovation and development, accelerate prototype validation cycle

Q: In which operational processes does your startup use AI tools? (Check at most five) sample size = 342

AI and Entrepreneurship: Beating Resource Constraints is Crucial

Most surveyed startups reported issues and bottlenecks with their AI applications, with resource constraints accounting for most (48.2%) of the problems, followed by technological maturity (35.1%) and data acquisition and processing (35.1%).



1. **Resource constraints:** Insufficient budget, labor, and infrastructure
2. **Technological maturity:** AI tech is unstable or not yet mature.
3. **Data acquisition and processing:** Difficulty acquiring, organizing, and sorting through large amounts of data.
4. **Model selection and adjustment:** Selecting the right AI models or algorithms and adjusting parameters.
5. **Efficacy and accuracy:** Poor performance of AI tools; accuracy does not meet needs.
6. **Technological complexity:** AI technology too complex to understand and apply.
7. **Digital transformation:** Challenges met in transitioning business processes to AI applications.
8. **Employee acceptance and training:** Low employee acceptance of AI technology; need for training and adaptation.
9. **Privacy and security:** Protect sensitive data and against security risks and privacy violations.
10. **Explanation and transparency:** Model results are difficult to interpret, lack credibility and transparency.
11. **Laws and regulations:** Compliance with laws and regulations
12. **Ethical and moral issues:** Ethical and moral considerations related to AI applications.

Q: What difficulties or challenges has your startup encountered in importing or using AI tools?(Check at most five) sample size = 342

Corporate Collaboration

3

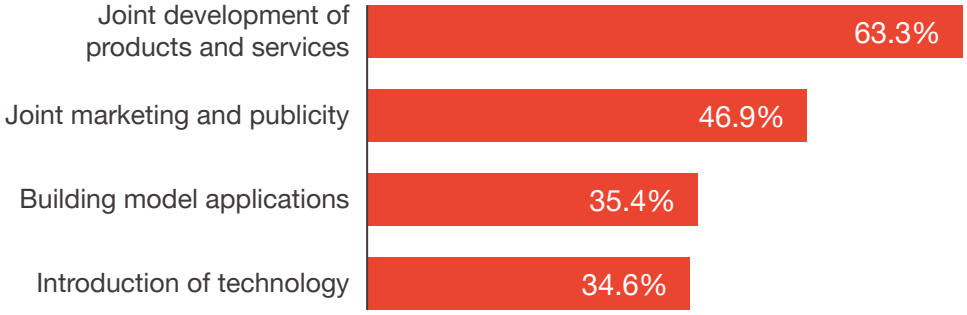
Differences in Cooperation Types Across Industries

Over 80% of surveyed startups have experience of external collaboration. The most prevalent external cooperation model is joint development of products and services (63.3%), while joint marketing and publicity (46.9%), building model applications (35.4%), and introduction of technology (34.6%) are more common in various sectors.

The slight differences in the common types of cooperation projects reflects the relative strengths of startups' strengths and the needs of the particular CSE model. The introduction of technologies and the joint development of products/services are more common in the fields of biopharmaceuticals (22.4%) and medical devices (17.9%), against building model applications for AI/big data startups (32.0%), and joint marketing and publicity for cultural creative startups (26.6%).

1. **Joint development of products and services:** Cooperating with schools, enterprises, research, or other institutions to jointly develop products, services, or solutions (with teams from other institutions to produce real-world results)
2. **Joint marketing and publicity:** Engage in marketing or promotion activities with other enterprises and share market resources (e.g., co-organized events, product launches, publicity)
3. **Building model applications:** Creating models through strategic partnerships or field demonstrations
4. **Introduction of technology:** Introduce technology from schools, enterprises, research, or other institutions

81.5%
have experience collaborating externally



Q: Which of the following types of cooperation has your company/team engaged with external organizations since establishment? (Check all that apply) sample size = 758

Innovation keywords

	Introduction of technology	Joint development of products and services	Building model applications	Joint marketing and publicity
1	22.4% Biopharmaceuticals/ medical devices	17.9% Biopharmaceuticals/ medical devices	32.0% AI/Big Data Big Data	26.6% Cultural Creative
2	20.6% AI/Big Data Big Data	16.9% AI/Big Data Big Data	16.4% Cultural Creative	18.6% AI/Big Data Big Data
3	16.8% Cultural Creative	16.4% Cultural Creative	16.0% Smart manufacturing	17.9% Domestic entertainment services/dining

Close interaction with SMEs and academia are central to CSE

Partners of cooperation	Introduction of technology	Joint development of products and services	Building model applications	Joint marketing and publicity
Listed domestic companies	8.9%	20.1%	23.2%	12.5%
Large domestic enterprises	6.7%	10.3%	14.7%	13.4%
SME	10.7%	**29.0%**	**23.2%**	**17.9%**
Foreign enterprise	5.8%	11.6%	9.4%	10.3%
Local schools	27.2%	27.2%	14.3%	13.0%

- The 2023 survey found that SMEs are the main targets of startups for external cooperation. They also cooperate closely with academia on introducing technology and joint development of products and services. This shows that industry-academic cooperation is another important driving force for innovation and business development.
- For startups cooperating on technology introduction, they most often cooperate with local schools (27.2%), partly because they have abundant research and lab facilities, which accelerate to tech development and innovation.
- Partners for joint development of products and services are primarily SMEs (29.0%), followed by schools (27.2%), and listed domestic companies (20.1%).
- Partners for building model applications are primarily operators, including listed domestic companies (23.2%), SMEs (23.2%) and large domestic enterprises (14.7%).
- Partners for joint marketing and publicity include SMEs (17.9%), large domestic enterprises (13.4%), and schools (13.0%).

Q1: Cont.: regarding "introduction of technology" from above, which entities has your company cooperated with? (Check all that apply) sample size = 214

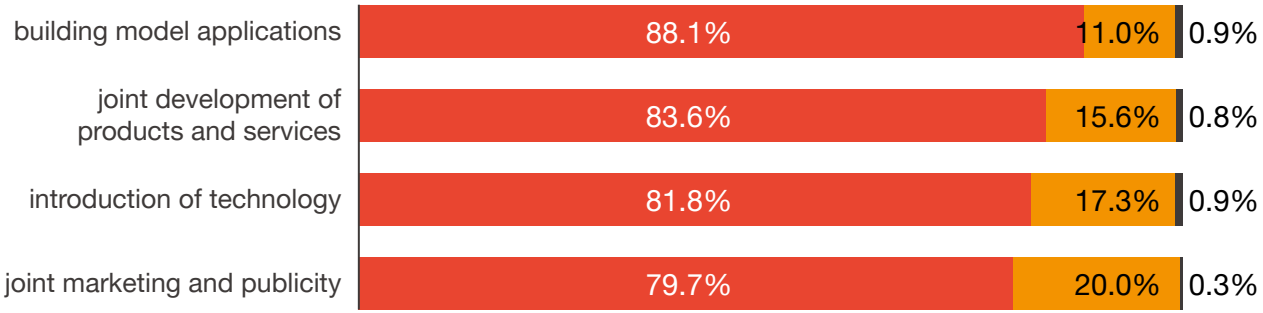
Q2: Cont.: regarding "joint development of products and services" from above, which entities has your company cooperated with? (Check all that apply) sample size = 391

Q3: Cont.: regarding "building models/applications" from above, which entities has your company cooperated with? (Check all that apply) sample size = 219

Q4: Cont.: regarding "joint marketing and publicity" from above, which entities has your company cooperated with? (Check all that apply) sample size = 290

External Cooperation Projects Exceed Startups' Expectations

Almost 80% of startups have a positive view of cooperation with corporates and say the results met their expectations. Building model applications is the most effective* form of cooperation (88.1%), followed by joint development of products and services (83.6%), technology introduction (81.8%), and joint marketing and publicity (79.7%).



Q1: Do the results of "introduction of technology" meet your expectations? sample size = 214

Q2: Do the results of "joint development of products and services" meet your expectations? sample size = 391

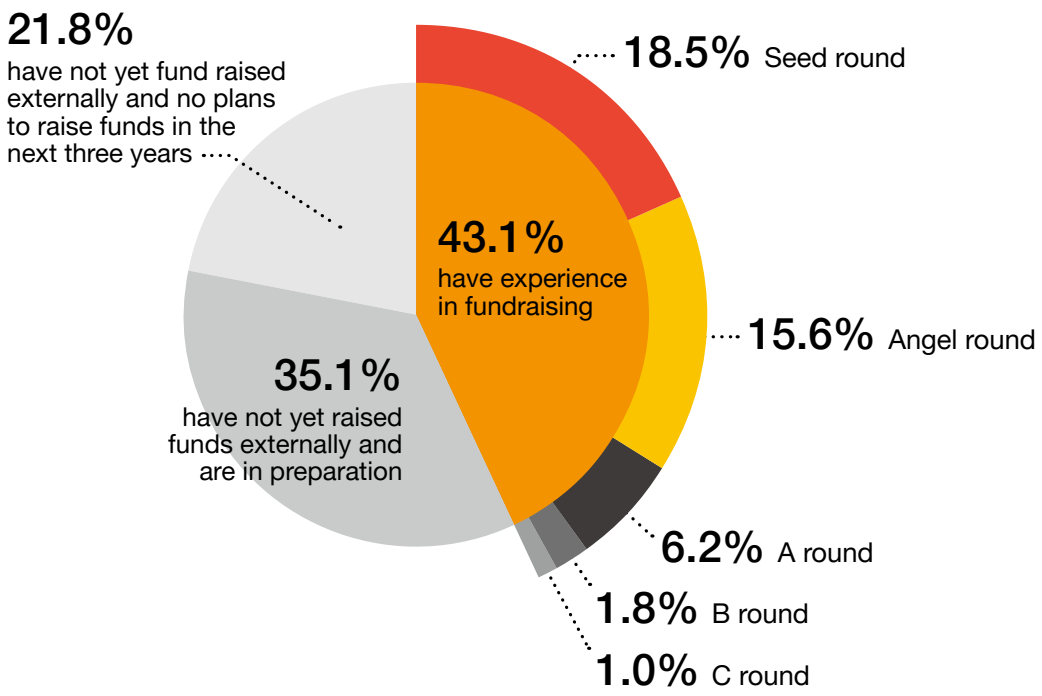
Q3: Do the results of "building model applications" meet your expectations? sample size = 219

Q4: Do the results of "joint marketing and publicity" meet your expectations? sample size = 290

* Effectiveness is measured by the sum of meets or exceeds expectations

Combined Experience in External Cooperation and Funding

A cross-comparison of external cooperation and funding experience finds that 43.0% of the startups that engaged in external cooperation also had funding experience. This was higher than for all surveyed startups (30.9%), which indicates that having experience of external cooperation is beneficial for attracting the attention of investors. The funding stage was mainly distributed across the seed round (18.5%), angel round (15.6%) and A round (6.2%). In practice, startup and companies that have accumulated experience in certain cooperation projects are able to extend the business model to other projects and attract matching funding.



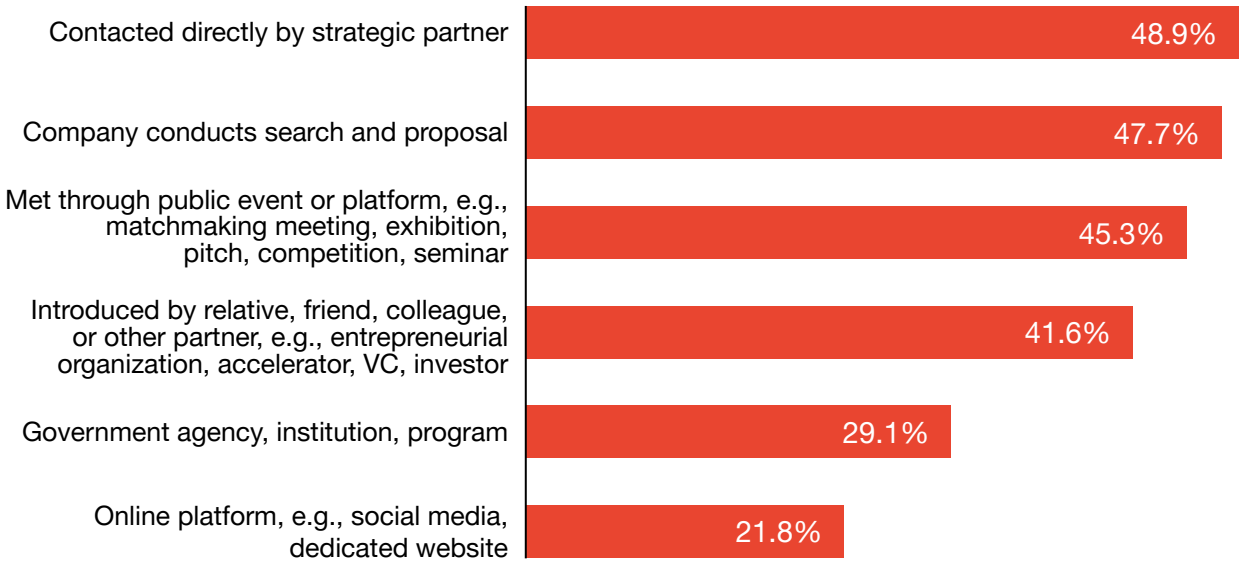
Q1: Which of the following types of cooperation has your company/team engaged with external organizations since establishment? (Check all that apply) those with external cooperation experience sample size = 618

Q2: Which funding stage has your company completed? those with external cooperation experience who responded sample size = 618

Integrated Platform Support for Startup Cooperation

Opportunities for developing external cooperation mainly come from "contacted directly by strategic partner" (48.9%), "company conducts search and proposal" (47.7%) and "met through public event or platform" (45.3%). Seeking cooperation opportunities is an important part of the business ecosystem, so finding the right organization is an important prerequisite for both sides of the partnership. Indeed, the extensive exposure of startups can help them to find more opportunities.

Policy makers should therefore consider establishing an integrated platform to collect data from various business platforms and events, which in turn would serve as a marketing and communication channel for startups to help them continuously update their status as well as create opportunities for cooperation.



Q: Over which channels did you find opportunities for cooperation? (Check all that apply) sample size = 618

Growing Cooperation Between Startups and SMEs

Main findings from the 2023 survey on cooperation between startups and corporates:

1 **Startups have attained significant experience in external cooperation**, with more than 80% having experience of external cooperation. This is a more than double the proportion recorded in the 2020 survey. The most common partners for startups are SMEs, which shows these enterprises are gradually participating in CSE, contributing more diversity to the startup ecosystem.

2 **The efficacy of cooperation is mostly seen in demonstration cases. Startups with experience of external cooperation can attract the attention of investors**. Startups need opportunities to gain practical experience and verify the feasibility of their business models. Most of the surveyed startups were most satisfied with the results of their demonstration projects. Also, 43.0% of startups that have cooperated with external enterprises also have experience of fundraising, which is higher than that for all of the surveyed startups (30.9%). This suggests that external cooperation experience is helpful in attracting investment interest.

3 **Integrated data platforms can provide startups with more exposure and opportunities for cooperation**. Startups can directly submit proposals to secure opportunities or be directly contacted by strategic partners through participating at public events. Policy makers should consider launching integrated platforms to market startups and help them more quickly contact and better understand potential partners for investment and cooperation, and thereby advance promotion of the CSE model.

Observations

4

Taiwan’ s AI startups are making considerable progress

About half of the surveyed startups are working in AI or AI-related fields, and over 70% of them are engaged in independent R&D and proving to be profitable. This highlights the potential for the AI industry in Taiwan to evolve into a comprehensive ecosystem.

This startup survey presents real-world applications of AI in various industries. In Taiwan’s biotech industry, visual recognition AI is enhancing the ability of medical institutions to provide services that are high-quality as well as cost-effective. Applied in medical imaging analysis, the technology is improving diagnosis speed and accuracy while improving treatment outcomes — and better cost-effectiveness means more patients and increased competitiveness of medical institutions.

Automated production AI used in smart manufacturing is enhancing efficiency, reducing errors and lowering labor costs. Leveraging Taiwan’s prowess in manufacturing through collaboration between startups and enterprises puts it in a good position to develop smart manufacturing solutions, which will help enhance the global competitiveness of the manufacturing industry. Also, advertising and marketing have undergone radical changes thanks to AI. Automated customer service bots and AI analytics are enhancing customer service, giving customers personalized experiences and making advertising more effective.

Looking at different industries and their characteristics, the startup survey found that AI startups are focusing on data-dense industries with extensive data collection. AI startups are finding business opportunities and tapping the potential value of such industry data through the use of AI technology and applications. In order to maximize the value of that data, industries must speed up their digital transformations—only then can they provide the digital environments conducive to training AI and thus offer high-value AI services.

Industrial transformation is an opportunity for startups to leverage

Cross-collaboration is essential for any industry undergoing transformation and adopting innovative technologies. The ultimate goal is to enable Taiwan's industries to deliver higher quality, cost-effective manufacturing and services and export them to overseas markets.

On the question of how to ensure the effectiveness of external collaborations for AI startups or introducing AI tools to enterprises, the starting point is to jointly evaluate (within a specific scope) the areas for digital transformation, maximize data applications, and create revenue. Both parties need to assess budgets, labor, and—more importantly—digital transformation and information/data completeness within the industry. This significantly affects the effectiveness of collaboration between startups and enterprises and whether AI startups can accumulate practical experience from demonstration cases or field tests.

There are big opportunities for startups to establish themselves in Taiwan's semiconductor and ICT industries, as well as in the development of important software for core chips and collaborating with Taiwan’s research institutions in technologies using applied AI, such as self-driving, precision medicine, health care, image recognition, and cybersecurity (InfoSec).

However, it is also important to overlook governance-related challenges. The authorities should establish a data governance framework that can provide guidance for stakeholders to follow and help them to build trusted relationships. These governance frameworks can be gradually enhanced through mechanisms for supervising startups, e.g., reviewing the applicability of existing regulations through AI supervisory sandboxes in certain domains; assessing potential, novel risks from technological development and applications, and determining whether existing regulatory rules need to be updated to address these risks.

CSE is taking root in in Taiwan

The 2023 survey shows that twice as startups as in the 2020 survey are actively collaborating with external organizations. This is helping them to make significant progress, notably in industry-academia collaborations in technology development, and proof of concept demonstration cases with enterprises. As a result, these startups are building up their capabilities and proof of value for fundraising.

The survey also found that startups with the closest cooperation involve SME partners. This indicates that CSE in taking root in Taiwan. SMEs are a vital part of Taiwan's economy, accounting for 98% of enterprises and as well as 80% of employment and 25% of exports. The value in SME-startup cooperation lies in the ability of SMEs to initiate cooperation thanks to their flexibility, helping startups to quickly meet the needs of specific fields and customers. Boosted by the innovative solutions offered by startups, SMEs can adapt to changes in the local and international markets and continue to play a crucial role in the economic growth of Taiwan.

Policy makers should assist startups to promote CSE model

The real-world stories of AI startups reveal a series of key factors for a successful CSE. AI startups which understand the industry structure and actual needs of their customers can identify the right AI applications, establish effective cooperation plans, generate revenues for the startup and customer, and achieve scalable development. These insights can be generalized to the broader issue of nurturing high-growth startups.

First, the success of startups largely depends on how well they understand their customers. This also includes a deep understanding of the industry and its operations, market demand, competitive environment and technological condition. Startups must accurately understand the environment and needs of their customers so that they can provide valuable solutions. Hence, policy makers should strive to encourage startups in their early stages to better understand dynamics of various industries and the related needs of their customers.

Second, startups should discuss with customers the most cost-effective solutions to introduce technology, given limited resources. This requires a good understanding of how technology can be applied in each industry, which also means that startups need knowledge and analytical capabilities in industry verticals. Policy makers should provide resources to establish groups of experts and mentors in verticals to support startups and provide long-term observation of industry dynamics and trends, thereby helping startups to be able to more quickly and better respond to changes in industry and customer needs.

If startups concentrate on customer needs and achieve success through early collaboration, it will help them to build their reputation and obtain financial support. Together, these elements can help integrate Taiwan's industrial advantages and infuse professional industry knowledge into the startup ecosystem, where it can nurture potential startups. This in turn would help Taiwan become a global hub for high-quality startups.

More corporate involvement needed

With the current startup wave headed by emerging technologies like AI, full continuous integration, adjustment, and application development in vertical industries are essential. Collaboration with enterprises is not only a stepping stone for startups to enter new markets, but also crucial for continually making technological capabilities and innovative applications more mature.

But establishing business trust is a challenge. How can startup resources and novel technologies be effectively integrated to create a win for all involved? Startups rely on professional go-betweens and accelerators to help with referrals. But from another perspective, many enterprises need startup technologies to promote their own transformation and upgrades and to tap into new markets. Existing enterprises can look to ESG and the overall health of the industry to provide investment, support, fields, technical verification, or other types of cooperation. This would not only be of benefit to startups but would also foster closer and broader interaction among all entities in the startup ecosystem, traditional industries, SMEs, and large enterprises. Overall, this would have tangible benefits for making both Taiwan and industries more competitive.

Policy makers are recommended to promote collaboration between startups and established corporates, as well as provide appropriate tax breaks or investment deductions to incentivize cooperation between enterprises and startups.

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