

FinTech Talent Survey 2019

Attracting talent to let
one-thousand FinTechs bloom



Foreword

Recent years have seen an explosion in the number of firms proffering services in the financial technology (“FinTech”) space across the globe and Singapore is no exception to this. Numerous initiatives taken to promote the development of FinTech firms in the Lion City have led to a flourishing FinTech scene with companies of all sizes, ranging from the quintessential start-up firm to large financial institutions, either identifying as FinTech companies or increasing investments in this field.

Investing in the field is not enough to ensure Singapore grows its nascent FinTech industry, attracting and retaining the talent to fuel the industry is also needed. Towards this end, PwC Singapore is proud to partner with the Singapore FinTech Association (“SFA”) to produce this report. Drawing on industry responses to key questions regarding the characteristics of their firm, their talent needs, methods for attracting; recruiting; and retaining talent, and plans for future talent acquisition.

The objective of this piece is to hear directly from the industry to better understand its composition and identify issues industry players are facing with regards to shortfalls in talent. This includes firms headquartered and/ or with operations in Singapore. Having garnered this snapshot and identified the issues, we hope to promote discussion among policy makers and industry stakeholders on the optimal paths to remedy the identified gaps.

Across the world, the demand for FinTech talent is outpacing the ability of educational facilities to supply it and, if left unchecked, this shortage will limit the potential benefits the FinTech industry could have on the world. We hope that by having a clear understanding of the talent issues uniquely relevant to Singapore, the industry can be better equipped to deal with them and continue to thrive.

PwC Singapore and the SFA would like to thank all survey respondents for their contribution to the survey results which provided the raw data to draw on and extrapolate. We hope this report provides policy makers with a clear direction to the industry’s needs regarding attracting and retaining the right talent grow and ensure Singapore’s FinTech industry continues to go from strength to strength.



Executive summary

With the global explosion in FinTech firms putting the industry squarely in the minds of policy makers, questions are now being asked across a range of aspects pertinent to the continued growth of the industry, not least in how the need for talent should shape policies. Ensuring an array of policies designed to enable talent to flow to where it is needed is a key consideration for any industry, and while the FinTech industry in Singapore does not appear to suffer massive talent shortages at the moment, policies must continue to stay relevant so that the prospective hiring plans of FinTech firms may reach fruition.

The main findings from the survey are as follows:

1. Singapore's FinTech industry contains a diverse range of firms with no single sector dominating. AI/ Machine Learning/ Cognitive Computing firms lead with circa 14% of respondents identifying with this category followed by Savings and Investments (including robo-advisors) with just over 12% of respondents. InsurTech firms round out the top-three with approximately 11% of respondents.
2. The majority of respondents (72%) are headquartered in Singapore. Of those not headquartered in the Lion City, most are headquartered in other Asian locations, with Hong Kong and Jakarta being the leaders.
3. Employment within Singapore's FinTech industry appears strong, with 42% of respondent firms reporting 30 or more employees, and a further 31% having between 11 to 30 employees.

4. Talent shortages appeared to be minimal across the industry, with 59% of respondents reporting no talent shortfall and 21% of participants reporting a talent shortfall of 0%-25% across the 13 unique roles highlighted in the survey.
5. Demand for talent over the next 12-36 months is strong despite the lack of talent shortages however, with 94% of survey participants reporting intentions to expand their current work force within the next 12 months and 28% of respondents expecting to double their headcount within the next 36 months.
6. Based on survey responses, the average FinTech firm in Singapore employs 10.8 employees with the largest components being in Software and Application Development, and Sales, Marketing and Business Development, having 43% and 22% respectively. Extrapolating survey results and applying industry estimates of 600-900 FinTech firms operating in Singapore, the industry as a whole employs roughly 6,500-10,000 employees in total.

With hiring expected to increase substantially over the coming 12-36 months and all other factors being equal, the number of both firms and employees within the industry are expected to increase substantially.



Introduction

Developments in FinTech are making inroads great and small across a broad swathe of the financial services industry. From distribution to onboarding, portfolio allocation to communication, digital banks to RegTech, and payments to platforms, FinTech is changing the market in ways great and small.

Whilst the demand and potential for the application of FinTech remains strong, finding talent for the industry is proving to be challenging in many areas. With established global FinTech centres like London, New York, and San Francisco continuing to jockey for position and candidates, other centres are emerging onto the scene and staking their own claims to the limited pool of available talent. The individual responses that national governments and municipal authorities are taking is varied but all serve a unified purpose; to increase both the available and pipeline FinTech talent on offer to them.

Singapore is regarded as a preferred gateway to the Asian FinTech scene due to an ease of doing business, strong common-law legal systems, and high levels of English proficiency.

Policy makers, namely the Monetary Authority of Singapore (“MAS”), have also been instrumental in this regard, with the MAS committing SGD225 million to the development of a Smart Financial Centre designed to build connections between financial institutions and tertiary institutes. The MAS has also publically recognised the need to attract quality FinTech talent to fill industry demand whilst being aware of the difficulties associated with attracting and retaining said talent.

Accordingly, the SFA commissioned PwC Singapore to undertake a survey of SFA members in order to derive qualitative and quantitative insights into the talent situation within the Singaporean FinTech industry.



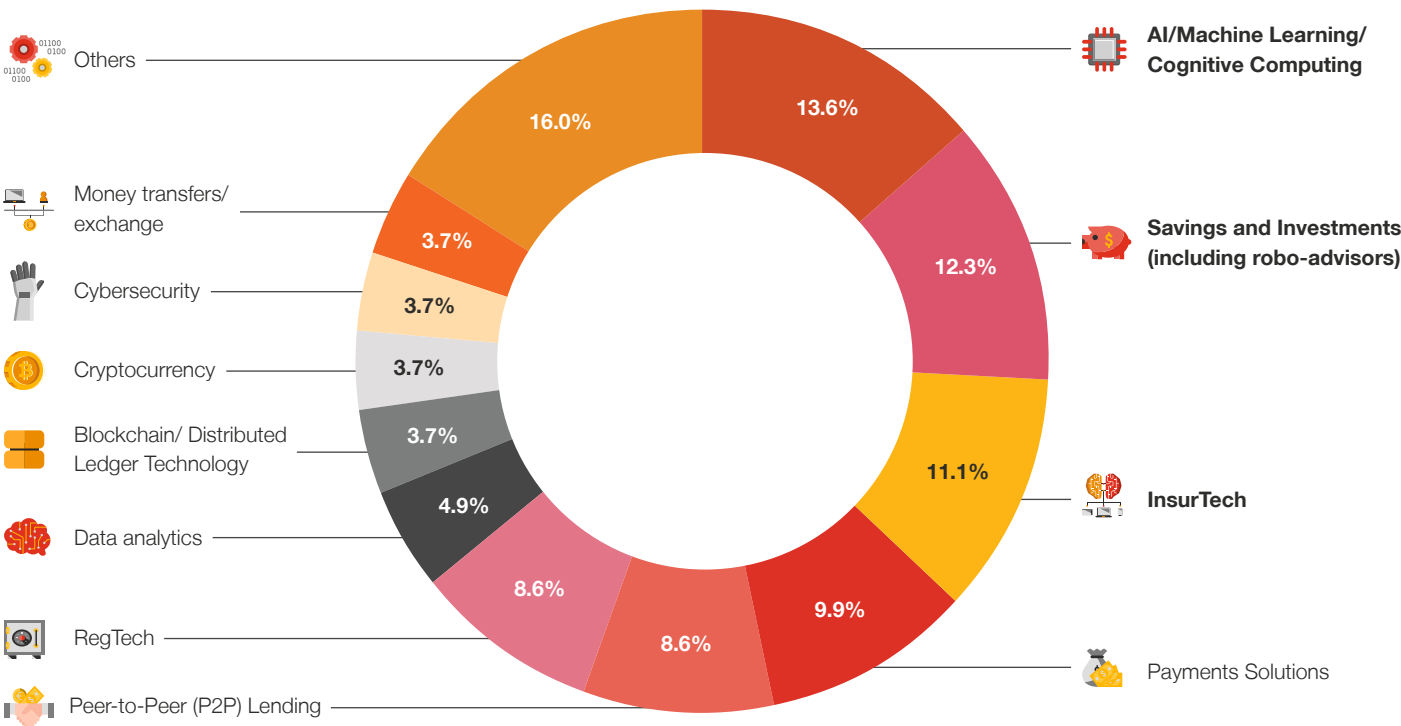
Survey findings

Singapore’s FinTech industry encompasses a diverse range of firms, operating across a multitude of FinTech services. With no single category of FinTech entity dominating, a broad FinTech ecosystem has flourished which should further strengthen Singapore as a global FinTech centre as opposed to being one limited to a select few areas. Firms operating in the AI/ Machine Learning/ Cognitive Computing, Savings and Investments, and InsurTech fields fill out the top three spots from survey respondents.



Question: Which FinTech sector is your company operating in?

Breakdown of firms



“

We aim to build a World-class company, and we will not be able to find the best talent by simply looking in Singapore. However... we do favour Singaporeans/PR when possible.”

”

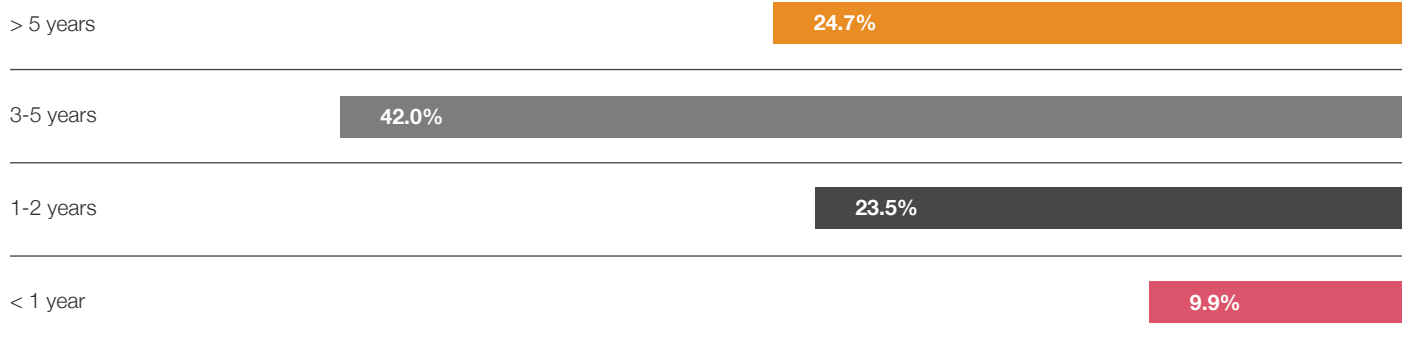
Comment from a survey respondent



The plurality of entities is reflected further in the lifespan of FinTech firms, with survey respondents showing that Singapore's FinTech industry comprises a mixture of maturity levels. About 10% of respondents are in companies which are operational for less than a year, whereas the bulk of the industry has been operational between 3-5 years. In addition, a significant minority has been operating for more than five years. This composition indicates there is a strong pipeline of firms across the various stages of the FinTech industry and a significant portion of them are showing longevity.

Question: How long has your company been established?

Lifespan of firms



Question: Where is your company based?

Company headquarters' location



71.6%
Singapore



28.4%
Other

Singapore boasts a significant home-grown FinTech industry, complemented by overseas firms establishing operations here. With over 70% of firms' surveyed based in Singapore, the remaining firms are located across a wide-range of countries in Asia, Europe, and the Americas.

Having such a balance of domestic and foreign firms operating in Singapore is a testament to both the ability of local firms to launch and operate, along with the attraction of Singapore to foreign firms looking to operate here or use Singapore as a regional headquarters.



Question: What is your company's annual turnover?

Annual turnover

Less than SGD 50,000

13.6%

SGD 50,000 to SGD 250,000

8.6%

SGD 250,000 to SGD 1,000,000

9.9%

More than SGD 1,000,000

38.3%

Do not wish to disclose

29.6%

In terms of annual turnover, a plurality of survey respondents reported annual turnover in excess of SGD1 million and the second highest group of respondents did not wish to disclose their turnover. Such results indicate that FinTech firms are able to effectively scale and monetise their operations in Singapore and that revenue growth can rapidly occur.

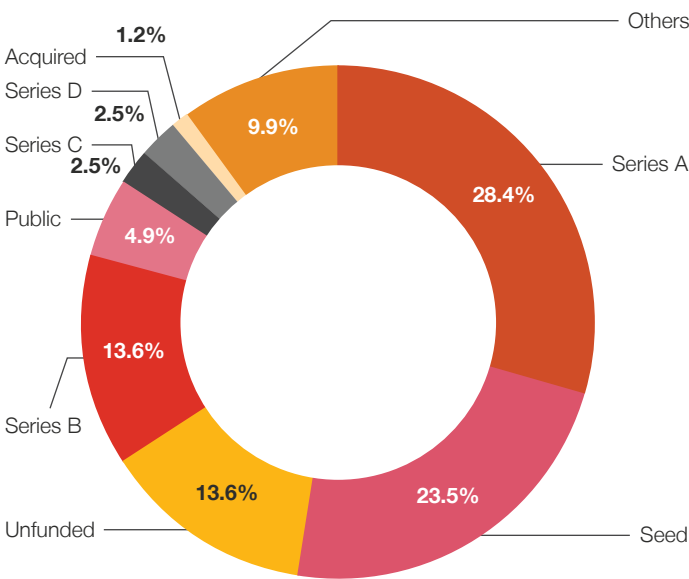
Circa 48% of responding firms showing annual turnover in excess of SGD1 million indicated they have been in operation for 3-5 years, an additional 39% indicated operations in excess of 5 years.

Question: What is the current fundraising status of your company?

Fundraising status of respondents



Singapore’s FinTech sector is supported by a strong fundraising scene, with survey respondents reporting a mixture of funding methods. Almost half of respondents were in fundraising rounds between series A (the largest block) to series D (which, along with Series C, had the lowest responses in this category).



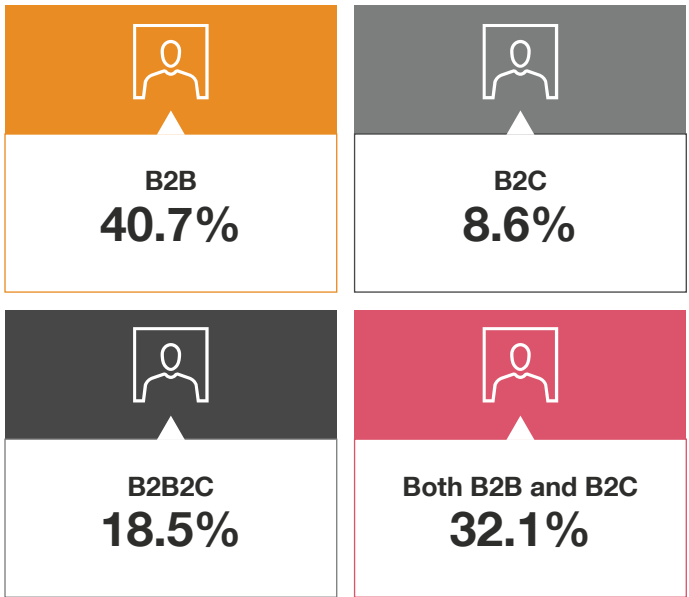
Outside of series fundraising, seed capital was the most prominent form of capital raising according to survey respondents, and several respondents had managed to undergo a public listing.

Question: What is your company’s business model?

Respondent’s business models



Singaporean FinTech firms have a significant Business to Business (“B2B”) focus, with over half of respondents reporting a business model that was either B2B or both B2B and Business to Consumer (“B2C”). Consumers in Singapore had several firms targeting them with an exclusive B2C model, and over 40% of survey respondents indicated their operating model was either B2C or both B2B and B2C.



What do you think the outlook of your sector will be like in the next 3 to 5 years?

Industry outlook of respondents

Growth will slow down, and consolidation may occur

6.2%

Growth will continue, albeit at a slower pace

16.1%

Growth will accelerate, with more opportunities available

76.5%

Others

1.2%

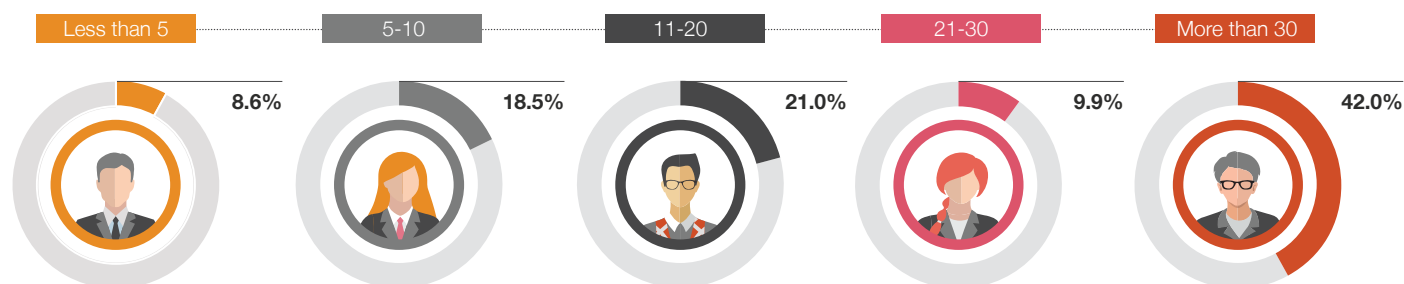
Outlook for the industry

Survey respondents were very optimistic about the outlook for the FinTech industry in Singapore, with over 75% stating they believed industry growth would accelerate with more opportunities available. An additional 16% believed that growth would continue, though at a slower pace than what had previously occurred.



Question: How many employees are there currently in your company?

Employment breakdown of respondents



Existing employees

Employment in Singaporean FinTech companies appears high, with over 40% of survey respondents reporting to have 30 or more staff. Nearly 50% had between 5-30 staff within their organisations, and less than 10% of respondents had fewer than 5 staff.

Question: What are the channels your company have used or are using to hire employees?

Employment channel breakdown of respondents



When it comes to finding employees, survey respondents reported using a wide variety of talent acquisition methods. Personal connections and recommendations featured across the vast majority of responses and employment agencies and recruitment firms were also utilised extensively.

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We have historically had a diversity in the workforce - we would like to keep that going.”

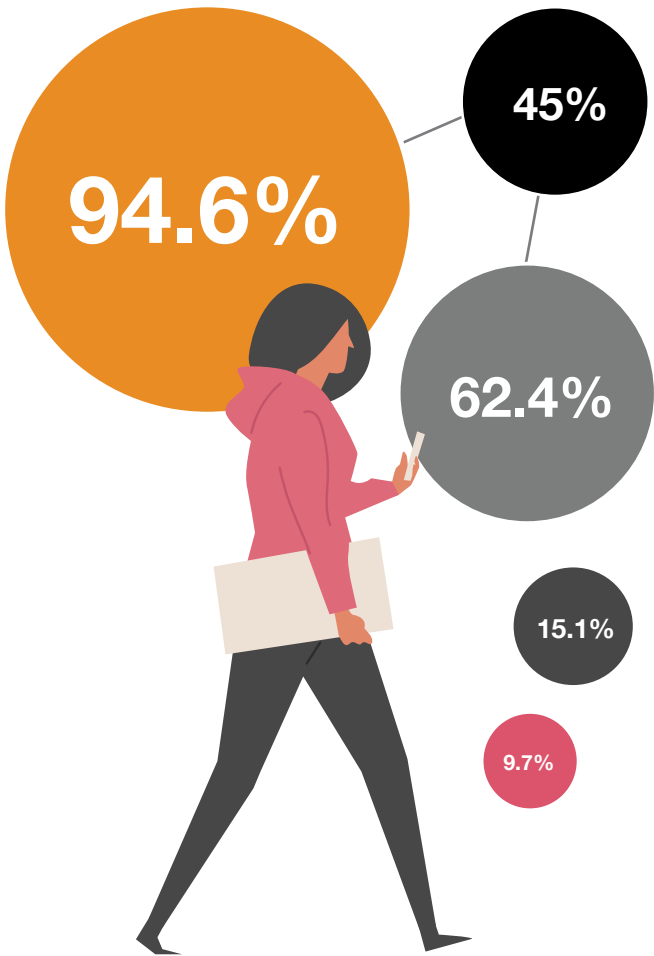
Comment from a survey respondent

Question: Which combination of compensation models do you use?

Employee remuneration breakdown of respondents

- Monthly Salary
- Employee Stock Ownership Plans (ESOPs)
- Deferred Salary
- Others

When it comes to the remuneration packages of employees, a combination of Employee Share Option Plans (“ESOPs”) and a monthly salary is adopted by just under half of respondents. 94% of respondents utilised a monthly salary either individually or as part of a total remuneration package. Monthly salary was also the largest stand-alone response, with circa 30% of total respondents selecting that option.



Outlook for employment


While Singapore's FinTech industry has made great strides in its development, its future growth will be partially dependent on its ability to attract and retain the right talent.

Across the 13 specific job categories contained in the survey, respondents indicated that they were facing limited talent shortages across all of them, though these shortages appeared manageable based on survey responses.

Across each job category, respondents indicated that they were experiencing no talent shortfall in almost 60% of responses. Additionally, 20% of respondents indicated they experienced a 0-25% talent shortfall across job functions, the second-highest response recorded. Only 2% of responses indicated respondents were experiencing a talent shortfall in excess of 100% and these were spread evenly across all job categories.


Question: Are you currently facing a shortage in talent in the following functions?

Talent shortfall across job categories

	Software and Application Development	Network/ Infrastructure	Cybersecurity	Data Analytics/ Big Data/ Data Scientists	AI/ Machine Learning/ Cognitive Computing	Design/ UI/ UX
0-25%	21.3%	21.3%	21.4%	21.4%	21.4%	21.4%
25-50%	8.5%	8.5%	7.1%	7.1%	7.1%	7.1%
50-75%	4.3%	4.3%	4.8%	4.8%	4.8%	4.8%
75-100%	6.4%	6.4%	4.8%	4.8%	4.8%	4.8%
More than 100%	2.1%	2.1%	2.4%	2.4%	2.4%	2.4%
No shortfall	57.4%	57.4%	59.5%	59.5%	59.5%	59.5%


Question: In which of the following functions are you looking to hire in the next 12 and 36 months?

12-36 month hirings[^]

	Software and Application Development	Network/ Infrastructure	Cybersecurity	Data Analytics/ Big Data/ Data Scientists	AI/ Machine Learning/ Cognitive Computing	Design/ UI/ UX
25-50%	39.0%	35.7%	25.0%	30.0%	20.0%	36.4%
50-75%	31.7%	42.9%	16.7%	30.0%	20.0%	22.7%
75-100%	9.8%	7.1%	8.3%	10.0%	20.0%	9.1%
More than double	19.5%	14.3%	50.0%	30.0%	40.0%	31.8%


[^]There were no responses collected for the '0-25%' and 'No shortfall' options.

36+ month hirings

	Software and Application Development	Network/ Infrastructure	Cybersecurity	Data Analytics/ Big Data/ Data Scientists	AI/ Machine Learning/ Cognitive Computing	Design/ UI/ UX
0-50%	26.5%	25.0%	10.0%	25.0%	8.3%	29.4%
50-100%	14.7%	8.3%	0.0%	6.3%	16.7%	0.0%
100-150%	20.6%	25.0%	40.0%	18.8%	33.3%	23.5%
150-200%	17.6%	16.7%	10.0%	12.5%	8.3%	17.6%
More than triple	11.8%	8.3%	30.0%	25.0%	25.0%	17.6%
None	8.8%	16.7%	10.0%	12.5%	8.3%	11.8%


Question: Are you currently facing a shortage in talent in the following functions?

Talent shortfall across job categories

	Operations & Support/ Service Agreement	Sales, Marketing and Business Development	Strategy and Architecture	Testing/ Quality Assurance	Compliance/ Audit	Robotics/ Hardware Development	CEO/Founder/ Co-Founder
0-25%	19.5%	20.0%	20.9%	20.5%	20.9%	19.5%	20.5%
25-50%	7.3%	8.9%	7.0%	6.8%	7.0%	7.3%	5.1%
50-75%	4.9%	4.4%	4.7%	4.5%	4.7%	4.9%	5.1%
75-100%	4.9%	6.7%	4.7%	6.8%	7.0%	4.9%	5.1%
More than 100%	2.4%	2.2%	2.3%	2.3%	2.3%	2.4%	2.6%
No shortfall	61.0%	57.8%	60.5%	59.1%	58.1%	61.0%	61.5%


Question: In which of the following functions are you looking to hire in the next 12 and 36 months?

12-36 month hirings[^]

	Operations & Support/ Service Agreement	Sales, Marketing and Business Development	Strategy and Architecture	Testing/ Quality Assurance	Compliance/ Audit	Robotics/ Hardware Development	CEO/Founder/ Co-Founder
25-50%	35.3%	36.7%	27.3%	35.3%	37.5%	28.6%	26.7%
50-75%	17.6%	26.7%	27.3%	35.3%	18.8%	28.6%	20.0%
75-100%	17.6%	10.0%	18.2%	11.8%	12.5%	0.0%	20.0%
More than double	29.4%	26.7%	27.3%	17.6%	31.3%	42.9%	33.3%

[^]There were no responses collected for the '0-25%' and 'No shortfall' options.

36+ month hirings

	Operations & Support/ Service Agreement	Sales, Marketing and Business Development	Strategy and Architecture	Testing/ Quality Assurance	Compliance/ Audit	Robotics/ Hardware Development	CEO/Founder/ Co-Founder
0-50%	28.6%	27.3%	20.0%	23.1%	23.1%	16.7%	16.7%
50-100%	0.0%	13.6%	0.0%	0.0%	0.0%	0.0%	0.0%
100-150%	28.6%	18.2%	30.0%	23.1%	23.1%	33.3%	25.0%
150-200%	21.4%	22.7%	20.0%	30.8%	23.1%	16.7%	25.0%
More than triple	14.3%	13.6%	20.0%	15.4%	23.1%	16.7%	25.0%
None	7.1%	4.5%	10.0%	7.7%	7.7%	16.7%	8.3%

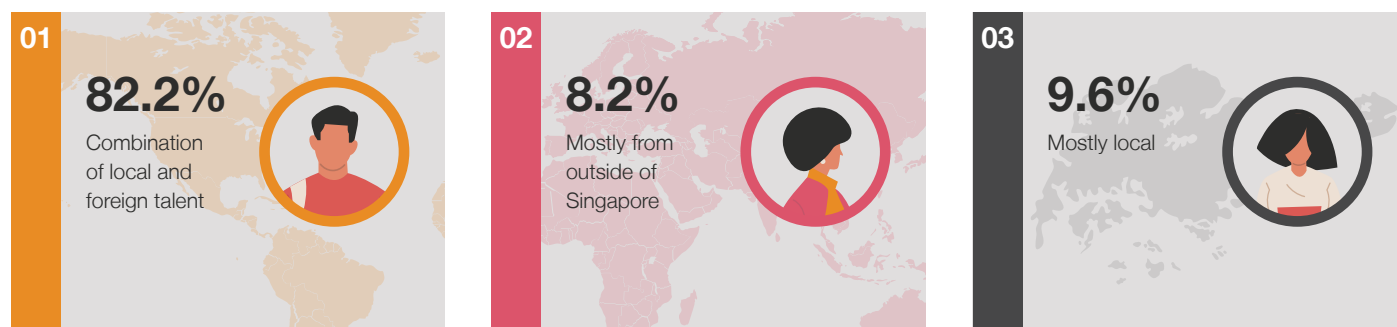
The hiring outlook over the next 12-36 months to address the talent shortfall is in line with the reported shortages and allows for the expected growth in the industry as well.

Aggregate responses across all job categories indicate over 30% of survey respondents intend to increase headcount by 25-50% in the next 12-36 months, a level that would redress the current shortfall and provide impetus to power industry growth as well.

Slightly over 25% of total survey respondents reported intentions to increase their headcount in job functions by more than double their current amount which, given the dearth of firms reporting talent shortages of this magnitude, is likely to reflect their optimism for the growth of the FinTech industry in Singapore.

Question: Where do you expect to recruit additional manpower from?

Expected location of talent hires



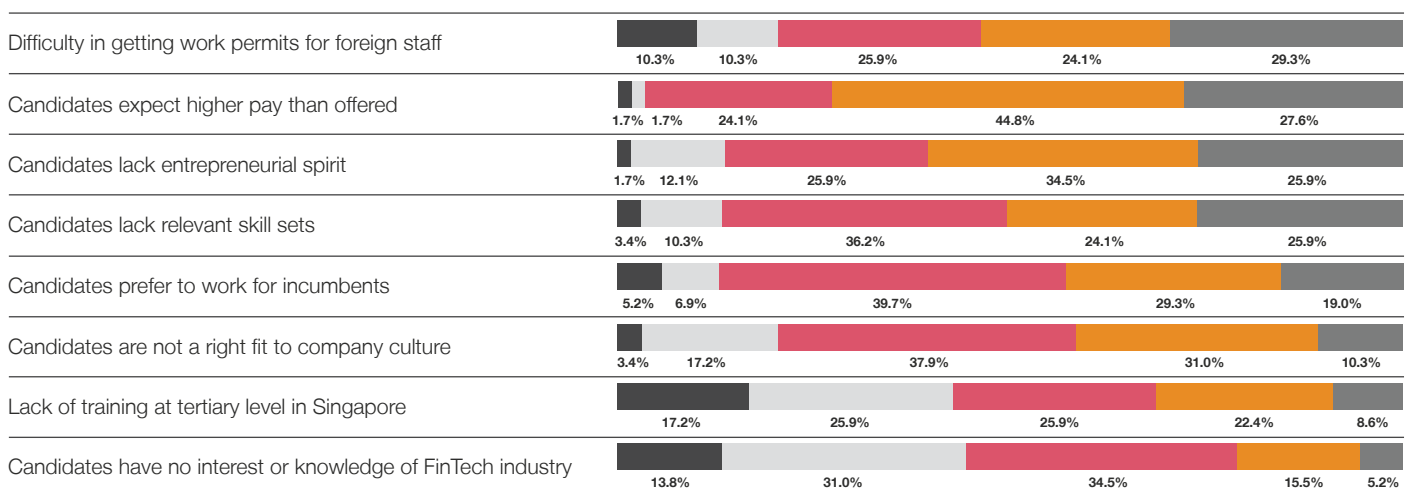
When it comes to finding future talents for the FinTech industry in Singapore, respondents are searching domestically and abroad, with over 80% of survey respondents expecting to recruit a combination of local and foreign talent. Respondent firms expecting to recruit exclusively local or exclusively foreign talent were roughly the same.





Question: On a scale of 1-5 (1=not applicable at all, 5=highly applicable) please rate the following drivers in terms of their contribution to the talent gap in the Singapore Fintech industry.

Contributions to talent gap in Singapore



Survey responses indicated that ‘Difficulty in getting work permits for foreign staff’ had the greatest influence on the talent gap with the highest number of responses at 5 point, the maximum level of the scale. However, candidates themselves also appear to be a factor as combining points 4 and 5 on the scale under the option ‘Candidates expect higher pay than offered’ amounted to 72% of responses. ‘Difficulty in getting work permits for foreign staff’ garnered 53% of responses, slightly behind ‘Candidates lacking entrepreneurial spirit’ with 60%.

1 2 3 4 5
(not applicable at all) (highly applicable)

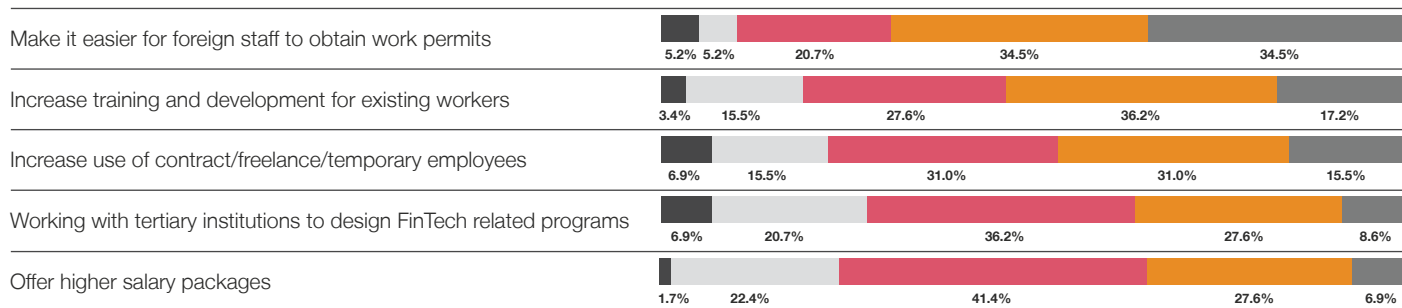
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Local talents understand Singapore’s regulatory framework better and can better establish rapport with other regional partners due to Singapore’s bilingual culture. However, there is a shortfall of skilled technical employees in Singapore.”

Comment from a survey respondent

Question: On a scale of 1-5 (1=not effective at all, 5=highly effective), please rate the following solutions in addressing the talent gap in the Singapore Fintech industry.

Solutions to talent gap in Singapore



In terms of solutions to the talent gap, over 34% of responses found the option 'Make it easier for foreign staff to obtain work permits' highly effective. 'Increase training and development for existing workers' came in next.



Aggregate FinTech Scene

Extrapolating survey responses to the estimated range of FinTech firms operating in Singapore shows the current aggregate sectorial composition could fall within the following bands.

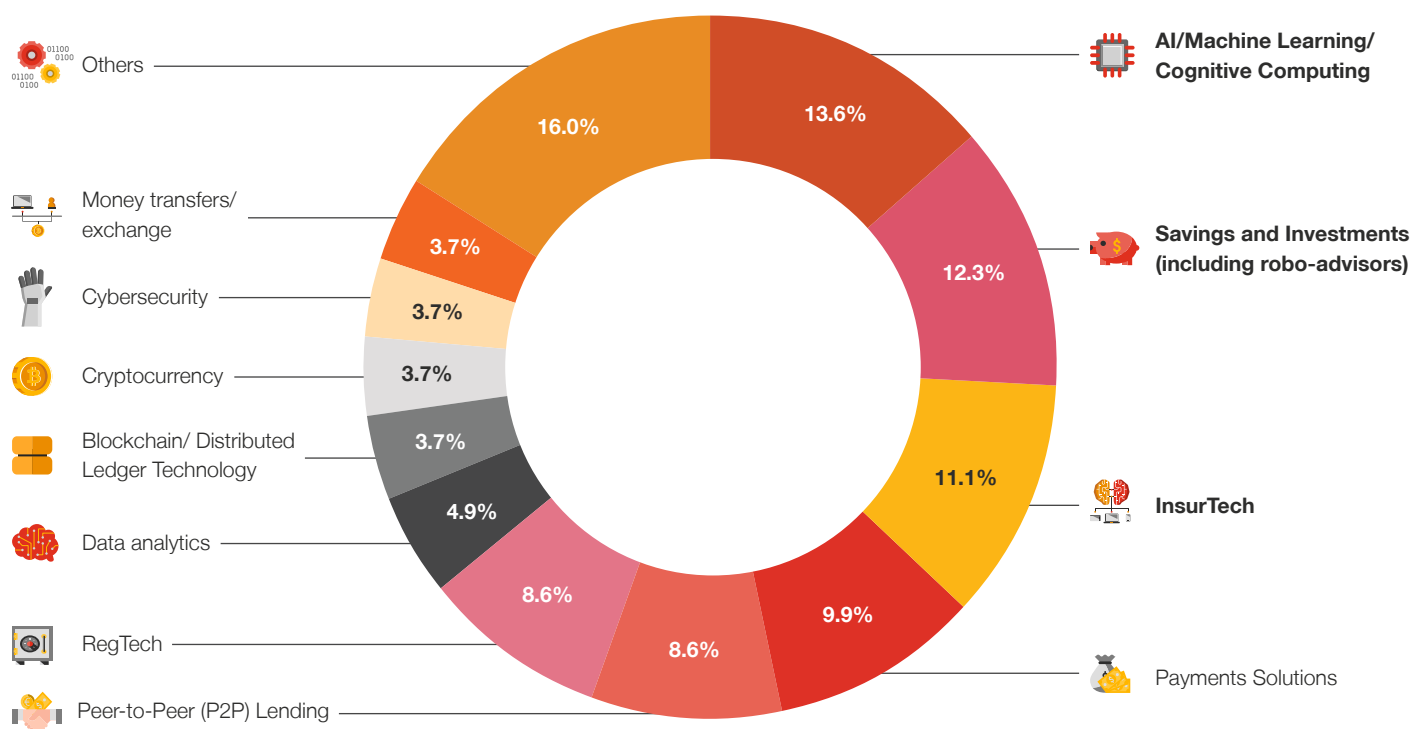


Diversity of talent and experience is important to innovate.”



Comment from a survey respondent

Number of firms	out of 600 firms	out of 750 firms	out of 900 firms
AI/ Machine Learning/ Cognitive Computing	81	102	122
Savings and Investments (including robo-advisors)	74	93	111
InsurTech	67	83	100
Payments Solutions	59	74	89
Peer-to-Peer (P2P) Lending	52	65	78
RegTech	52	65	78
Data Analytics	30	37	44
Blockchain/ DLT	22	28	33
Cybersecurity	22	28	33
Cryptocurrency	22	28	33
Money transfers/ exchange	22	28	33
Others	96	120	144

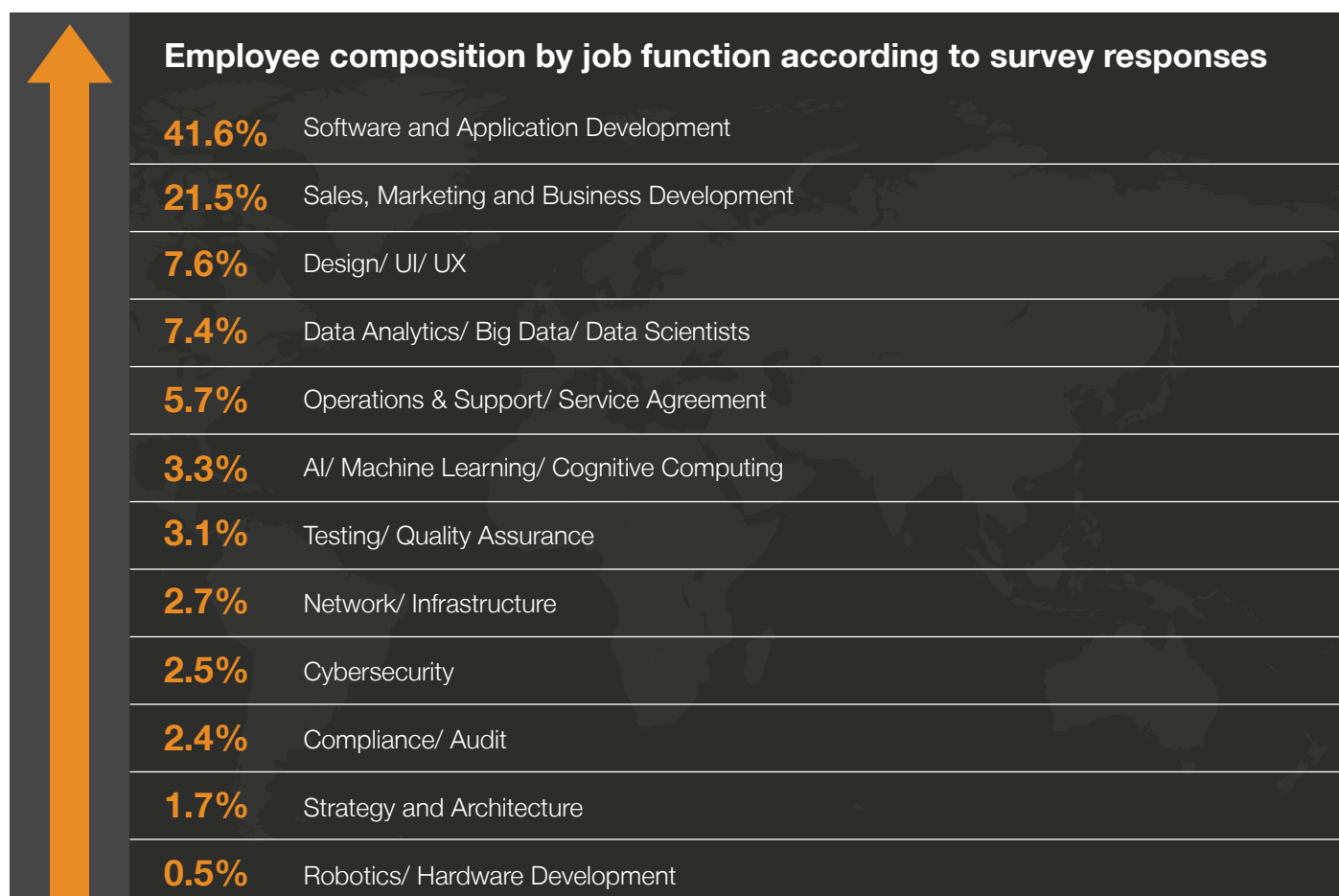


Additionally, data provided by firms that responded to the survey indicates an average 10 employee's per firm. The largest allocation of employees reported by respondent firms is in the Software and Application Development and Sales, Marketing and Business Development functions with 42% and 22% respectively.

A potential aggregate industry split of employees by job function is shown in the table below.



Number of employees	out of 600 firms	out of 750 firms	out of 900 firms
Software and Application Development	2,696	3,370	4,044
Sales, Marketing and Business Development	1,393	1,741	2,089
Design/ UI/ UX	496	620	744
Data Analytics/ Big Data/ Data Scientists	481	602	722
Operations & Support/ Service Agreement	370	463	556
AI/ Machine Learning/ Cognitive Computing	215	269	322
Testing/ Quality Assurance	200	250	300
Network/ Infrastructure	178	222	267
Cybersecurity	163	204	244
Compliance/ Audit	156	194	233
Strategy and Architecture	111	139	167
Robotics/ Hardware Development	30	37	44





Most businesses are now global and require a mix of both. Local because of local knowledge and expertise and the local network. Global because of overall international experience, insight, global talent, broader background and sometimes greater drive & ambition.

Comment from a survey respondent

The SFA finds it heartening to observe that Singaporean FinTech firms are reporting manageable and minimal talent shortages across the industry. However, the great optimism of the industry, with 94% of respondents expecting growth over the next 12-24 months, means that the demand for FinTech professionals is likely to significantly increase across all job functions. With that in mind, the SFA believes Institutions of Higher Learning (“IHLs”), training institutions, and associations should concentrate their efforts on upskilling and reskilling the current FinTech workforce, especially for financial services workers whose skills and jobs may become less relevant as the finance industry ramps-up its pace of digital transformation.

An earlier SFA survey, conducted in November 2017, identified that “Finding and retaining talent” was the second-highest concern among SFA members. Following that result, we have observed IHLs and other industry organisations, like SFA, expand their training programmes and skills learning relating to FinTech. Such developments are excellent to see and reaffirm our belief that consistent engagement across industry stakeholders enables viable and pragmatic solutions to be agreed on for challenges, both realised and predicted, and assists in their resolution.

Engagements such as this survey further solidify our views that the prospects for the continued growth of the FinTech industry in Singapore are strong and we are proud to assist in furthering the FinTech scene in Singapore.

Survey Methodology

The survey was sent to 832 individuals working across 394 FinTech firms. Individuals and firms contacted were a combination of SFA members and PwC Singapore’s clients and contacts. On the rare occasions where multiple individuals from the same firm responded to the survey, the responses were checked for consistency and duplicate responses were scrubbed from the raw survey results. Of the 832 individuals contacted, 93 responded. Estimates of the 600–900 FinTech firms operating in Singapore were derived from discussions between SFA and PwC Singapore, industry players, and data providers.

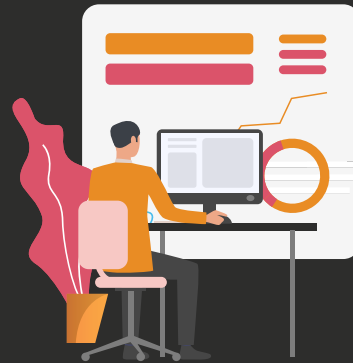
For consistency in application of the term “FinTech” with a prior SFA survey held in March 2019, the definition of a FinTech entity used in this survey is “Intersection of financial services and technology sectors where technology-focused start-ups and new market entrants innovate the products and services currently provided by the traditional financial services industry.”

Additionally, numerous responses to questions examining categories like ‘Job Functions’, ‘FinTech Sector’, and ‘Business model’ have been kept consistent with the March 2019 survey in order to better provide a point of comparison against that survey, which was retro-active in its industry assessment.

The numbers in the tables and charts may not sum up to stated total or 100% due to rounding

The CEO/ Founder/ Co-Founder category was removed from the extrapolated ‘Number of employees’ table on page 18 as individuals in these roles usually held a technical role at their FinTech firm.





About Singapore Fintech Association (SFA)

SFA is a cross-industry and non-profit organization.

It's purpose is to support the development of the FinTech industry in Singapore, and to facilitate collaboration among the participants and stakeholders of the FinTech ecosystem in Singapore.

The SFA is a member-based organization with over 350 corporate members. It represents the full range of stakeholders in the FinTech industry, from early stage innovative companies to large financial players and service providers.

To further its purpose, the SFA also partners with institutions and associations from Singapore and globally to cooperate on initiatives relating to the FinTech industry. The SFA have signed over 48 international memorandum of understanding (MoU) in more than 30+ countries and are the first U Associate organisation to be affiliated with National Trades Union Congress (NTUC).

For further information visit <https://singaporefintech.org/>







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At PwC, our purpose is to build trust in society and solve important problems. We're a network of firms in 158 countries with over 250,000 people who are committed to delivering quality in assurance, advisory and tax services.

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