HKU FinTech Index Series

Hong Kong FinTech Growth Index

Sponsored by Suoxinda Data Technology Co. Ltd
HKU FinTech Index Series

Hong Kong FinTech Buzz Index

Index Value

99.0
101.2
101.7
98.5
103.8
104.7
104.5

Q1, 2018 Q2, 2018 Q3, 2018 Q4, 2018 Q1, 2019 Q2, 2019 Q3, 2019

Time

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Report of the HKU FinTech Index Series

Publication date: November 8, 2019
The HKU FinTech Index Series is a research project initiated by HKU’s technology transfer company - Versitech, and led by Dr Philip Yu of the Department of Statistics and Actuarial Science, Faculty of Science, HKU.

It is a 5-year project sponsored by Suoxinda Data Technology Co. Ltd, a reputable market player in the big data and AI industry in the PRC.
The HKU FinTech Index Series aims to provide indicators on the growth and development of the FinTech industry in Hong Kong. Two indices are launched in the first phase - HK FinTech Growth Index and the HK FinTech Buzz Index.

Companies surveyed are selected from six FinTech sectors:

- InsurTech;
- WealthTech & CreditTech;
- Blockchain & Cryptocurrency;
- E-payment & digital banking;
- RegTech & Cybersecurity; and
- Other related business such as AI and Big Data.
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HKU FinTech Index Series

HK FinTech Growth Index

- FGI is a yearly index reflecting Hong Kong Fintech sector’s forecast of the market situation in the coming year and an assessment of the situation in the current year.

HK FinTech Buzz Index

- The HK FinTech Buzz Index is a quarterly index representing a quantified sentiment of local FinTech-related news articles in local press in the past three months.
## Methodology - FGI

### HK FinTech Growth Index

<table>
<thead>
<tr>
<th>Partners</th>
<th>49 partnered companies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data collection method</td>
<td>Self-administrated questionnaire</td>
</tr>
<tr>
<td>Base period</td>
<td>April 1, 2018 – March 31, 2019</td>
</tr>
<tr>
<td>Base value</td>
<td>100</td>
</tr>
<tr>
<td>Published Frequency</td>
<td>Yearly</td>
</tr>
</tbody>
</table>
Partnered companies
Methodology – FBI

HK FinTech Buzz Index

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Data source</td>
<td>WiseNews</td>
</tr>
<tr>
<td>Date period</td>
<td>2016 - 2017</td>
</tr>
<tr>
<td>Base value</td>
<td>100</td>
</tr>
<tr>
<td>Published Frequency</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>
Methodology – FBI

All Chinese news articles related to Hong Kong and FinTech are fed into the **AI algorithm** that analyse the words and how they are used.

The AI algorithm is fine tuned by training it against **thousands of labelled news articles** that have been analysed by humans.

This analysis allows us to assign a **sentiment score** to each new articles.

The index score starts from the value of 100 points, which is the average sentiment of the base period between 2016 and 2017.

To interpret the index value, the key is that it is the relative difference between one index value and another.
Key Statistics

HK FinTech Growth Index
152.9

HK FinTech Buzz Index 2019Q1
103.8

HK FinTech Buzz Index 2019Q2
104.7

HK FinTech Buzz Index 2019Q3
104.5

- **60.5%** respondents considered **customer acquisition, talent acquisition and funding** as their major challenges in operating a FinTech business.

- **68.4%** respondents considered **programming skills** are essential requirements for new hires.

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HK FinTech Growth Index
FinTech Growth Survey

According to InvestHK’s 2018 report, the three most competitive FinTech business sectors in Hong Kong are **Payment & Remittance, Blockchain & Digital Asset** and **WealthTech & CreditTech**.

Completed questionnaires for 38 partnered companies

Accordingly, 26% of the companies selected for the yearly survey are E-payment & Digital Banking and Blockchain & Cryptocurrency related, and 21% WealthTech & CreditTech related.

84% are start-ups.

45% companies have adopted B2B model.
Sub-Indices of FGI
for 2019-2020 financial year

HK FinTech Growth Index

152.9

Business Environment: 105.0
Business Performance: 213.0
Investment on R&D or product development: 148.4
Demand on talent: 145.3

Base year: 2018-2019 financial year
FinTech Business Environment

- External Factors

• The business environment, measured by internal and external factors affecting FinTech business operations and development, grew by a modest 5% in the same period.
• The relatively lower average rating was recorded on external factors such as investment environment, government policy and regulations.

Top 3 important external factors

Please rank the underlying external factors that support the FinTech business operation of your company in Hong Kong according to their importance?

<table>
<thead>
<tr>
<th>Accessibility to global market</th>
<th>Effective government regulation</th>
<th>Safe and stable investment environment</th>
</tr>
</thead>
<tbody>
<tr>
<td>47.4%</td>
<td>36.8%</td>
<td>36.8%</td>
</tr>
</tbody>
</table>

Average rating of improvement level on external factors

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proximity to global market</td>
<td>4.21</td>
</tr>
<tr>
<td>External funding opportunities</td>
<td>3.79</td>
</tr>
<tr>
<td>Effective government regulation</td>
<td>3.66</td>
</tr>
<tr>
<td>Strong technical infrastructure in HK</td>
<td>4.10</td>
</tr>
<tr>
<td>Safe and stable investment environment</td>
<td>3.32</td>
</tr>
<tr>
<td>Strong intellectual property law and arbitration arrangement</td>
<td>4.12</td>
</tr>
</tbody>
</table>

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FinTech Business Environment
- Internal Factors

- There is a positive effect of the internal factors by the companies in terms of funding and other capital allocations.

Top 2 important internal factors

Please rank the underlying internal factors that support the FinTech business operation of your company in Hong Kong according to their importance?

<table>
<thead>
<tr>
<th>Factor</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talented employees</td>
<td>4.63</td>
</tr>
<tr>
<td>Enough internal capital funding</td>
<td>4.41</td>
</tr>
<tr>
<td>Vibrant entrepreneurial culture</td>
<td>4.56</td>
</tr>
<tr>
<td>Strong IT security and infrastructure</td>
<td>4.47</td>
</tr>
</tbody>
</table>

Average rating of improvement level on internal factors
FinTech Business Performance

• The anticipated growth of business performance, indicated by the FinTech customer adoption rate grew by 113% as compared to the 2018-19 financial year, representing an optimistic outlook of the business development by the companies.

• The results are consistent with the EY FinTech Adoption Index#. HK’s FinTech adoption rate was 32% in 2017 and 67% in 2019, an increase of 109%.

• FinTech companies have anticipated a strong business performance in 2020, there are however concerns whether they can keep increasing their customer acquisition, talent acquisition as well as their funding.

Top 3 challenges faced by FinTech companies

What is/are the challenge(s) of the FinTech business operation in your company?

- 60.5% Customer acquisition
- 60.5% Talent acquisition
- 60.5% Funding

What is/are the challenge(s) of the FinTech business operation in your company?

- Regulatory uncertainty: 42.1%
- Bank account: 28.9%
- IT security: 10.5%

Notes: # Ernst & Young, Ernst and Young Global FinTech Adoption Index 2019, June 2019
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A moderate 48.4% growth in R&D investment or product development anticipated for 2020. The sub-index measures the anticipated growth for the upcoming financial year as compared with the actual growth in the current year.

Fundraising by Hong Kong FinTech companies rose to US$152 million in the first half of 2019, compared with US$23 million a year ago#.

R&D investment and product development by the companies mainly in the areas of AI, big data analytics and machines/deep learning, Blockchain and Customer experience.

Top 3 areas for R&D

- AI, Big Data analytics and Machine/Deep Learning: 55.3%
- Blockchain: 42.1%
- Customer experience: 39.5%

Other areas for R&D

- Compliance: 28.9%
- Mobile solutions: 26.3%
- Cybersecurity: 21.1%
- Revamp of IT infrastructure: 15.8%
- Payments/transaction banking: 15.8%
- Cloud computing: 15.8%

Notes: # South China Morning Post, August 2019
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Demand on Talent

- A moderate 45.3% growth anticipated for Demand on Talent in 2020.

- To equip new generation with the skill sets:
  - The HKMA launched the upgraded version of the FinTech Career Accelerator Scheme (“FCAS”) in 2018
  - Six local universities have rolled out bachelor’s or master’s degree programmes related to FinTech

Top 3 required skills for new hires

What are the required skills for the new hires in the current financial year (04/2019 - 03/2020)?

- Programming skills: 68.4%
- Marketing expertise: 47.4%
- Knowledge of machine/deep learning and AI: 42.1%

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HK FinTech Buzz Index
HKU FinTech Buzz Index in 2019Q3 dropped by 0.19% to 104.5 compared with the last quarter, mainly due to the negative impact of US-China trade tension and unstable political environment in Hong Kong.

The sudden drop in 2018 Q4 was mainly caused by the data leakage of the payment in RegTech & Cybersecurity sector.
Sectoral Indices for 2018Q1 – 2019Q3

- The **RegTech & Cybersecurity** sector has a lower index value as compared with other sectors
  - Owing to negative news on **cybersecurity** which drew wide media coverages.

- More encouraging in the sector **Payment & Digital Banking**
  - Owing to positive news including **virtual banking licensing** and **new fast payment methods** launched.

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**Quarterly HK FinTech Buzz Index over Six Sectors**

- Unauthorized transfer of E-payment apps
- Upsurge of Greater Bay Area usage & Virtual bank
- Greater Bay Area & Cyberport
- The first application of blockchain in second-hand real estate market
- Fraud of Cryptocurrency & Personal data leakage of digital payment
- Large-scale personal data leakage
- Data leakage & Unauthorized transfer

**Index Value**

<table>
<thead>
<tr>
<th>Index Value</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>120.0</td>
<td>Q1, 2018</td>
</tr>
<tr>
<td>115.0</td>
<td>Q2, 2018</td>
</tr>
<tr>
<td>110.0</td>
<td>Q3, 2018</td>
</tr>
<tr>
<td>105.0</td>
<td>Q4, 2018</td>
</tr>
<tr>
<td>100.0</td>
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</tbody>
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- InsurTech
- WealthTech & CreditTech
- Blockchain & Cryptocurrency
- Payment & Digital banking
- RegTech & Cybersecurity
- Supporters & Other related business

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Thank you!