

YOUTH MOBILITY
INDEX 2018



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YMI Report 2018



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0. Foreword

Work on the Youth Mobility Index (YMI.Asia) began with one premise: to better support young Asians who are setting out to change the world. This year, the DotAsia Organisation is celebrating our 10 year anniversary of the launch of the .Asia global Top-Level Domain. The DotAsia initiative nevertheless was first discussed almost 20 years ago in 2000 when I myself was an Asian youth looking to change the Internet as an innovator of technologies to allow domain names and email addresses to be expressed in any native language.

In the last 10 years since the launch of .Asia, we have been able to support meaningful initiatives across Asia such as the One Laptop per Child initiative in Asia, Creative Commons in Asia, Wikipedia and Wikimania events in Asia among other Asia Internet community development work such as the Information Society Innovations Fund (ISIF.Asia), the charity media Go.Asia and the free crowdfunding platform Give.Asia. One of DotAsia's flagship programs standing tall, is the NetMission program, which is a youth ambassadors program for youth, by youth, focused on Internet governance issues from digital divide to privacy and social innovation. NetMission alumni have been elected to regional and global Internet leadership positions and committees, and have sparked a global movement with the first Youth Internet Governance Forum (YIGF) in Asia and the first NextGen@ICANN. Today, many regional and national IGF initiatives include a youth component and NextGen has become a regular program featured at every ICANN meeting, and DotAsia is proud to have been there to seed the spark that has ignited a global flame.

To commemorate the first decade of .Asia, and building on our decade long dedication and knowledge in supporting youth engagement and development in Asia, a special taskforce was commissioned to look into an initiative that could become a beacon for DotAsia into the future. Beyond the team internally, we drew upon supporters, consultants and academia to help formulate and eventually produce this Youth Mobility Index (YMI.Asia). We are especially grateful to have the support and guidance from Andrew Mack, David Ketchum, Chitai Chan, Malavika Jayaram and Shanthi Robertson on the journey for the creation of the YMI. We have great aspirations for YMI to become a tool that could support young innovators in Asia. Of course the rankings could help young entrepreneurs think where they might go to kickstart their idea, or for students to consider where to go for university and where to aim for landing their first job. More importantly, we hope that the YMI could inspire further studies to support and inform policy development locally and regionally to enhance youth mobility across the region.

We are in the Asian Century. The mission of DotAsia is to operate a global Internet infrastructure (the .Asia TLD) with regional significance to support Internet development and adoption across Asia. The vision of DotAsia is that through the cultivation of a collaborative Internet community in Asia, we could inspire a collaborative Asia. With the world's economic gravity shifting towards Asia, globalization and all of its discontents of income disparity, erosion of community priorities, etc. will also proliferate. Youth mobility in a multi-dimensional way, including social mobility, geophysical mobility and digital mobility, is important to promote social equity and shared rewards of the rapidly growing prosperity. Mobility enhances collaboration, and collaboration promotes peace. The Internet is a potent platform and tool for facilitating understanding, but also an equally potent force to become an echo chamber. Digital mobility therefore plays a critical role both in econom-

ic development as well as social, especially for a young Asia with a large proportion of its population being youth and online.

The results from this inaugural edition of YMI in 2018 indicates a solid foundation for the methodology framework. The rankings and scores positively correlate with yet meaningfully build new knowledge onto other well established indicators, providing a rich set of tools for comparative studies. This groundwork will allow YMI to be continuously refined into the future with better and more representative data as the initiative grows and can draw upon richer source data. The plan for continuous improvement is also part of the thinking behind the development of YMI. While DotAsia is not a large organization, our strength is in our independence and economic stability through the operations of the successful .Asia domain. The attractiveness of the .Asia domain is built on the attractiveness of the region for business and for social development. The mobility of young Asians to make a difference for Asia. The success of YMI ties back into the success of .Asia, reinforcing regional collaboration. Next time you are thinking of starting something from Asia or for Asia, think of making it happen on a .Asia domain name!



Edmon Chung is the CEO of DotAsia Organisation and heads the secretariat for the Asia Pacific Regional Internet Governance Forum (APRIGF). Edmon serves on the board of the Internet Governance Forum Support Association (IGFSA), and on the Executive Committee of Internet Society Hong Kong and participates extensively on Internet governance issues, especially to support youth participation.

Edmon is an inventor of patents for internationalized

domain names (IDN) and email addresses. Edmon won the Most Innovative Award in the Chinese Canadian Entrepreneurship Award in 2001. In 2000, Edmon was selected by The Globe and Mail as one of the Young Canadian Leaders. Edmon has a Bachelor of Applied Science and Master of Engineering from the University of Toronto, where he won the Centennial Thesis Award for his dissertation.

0.1 Remarks from Dr. Chitat Chan

The YMI framework has provided a set of tools to measure the mobility of the younger generation. It is exciting to learn that YMI scores are highly correlated with GDP per capita, Global Competitiveness Index (GCI), and the Human Development Index (HDI). How the Internet Factors created an advantage for the locality in supporting youth mobility is an area worth further exploration and discussion. The Internet is affecting every aspect of young people's lives, it is much more than just a means of communication. We are in an age of technology fusion, which blurs boundaries between different disciplines, and even between physical and cyber domains (Chan & Holosko, in press). The impact of the Internet goes beyond increased efficiency in mobility and getting information. New technologies expand young people's realities and have changed how they work, how they learn, and how they carry out social processes (Chan, 2016a, 2016b; Chan & Holosko, 2016; Chan & Ngai, in press).



Dr. Chitat Chan (<https://www.polyu.edu.hk/apss/people/academic-staffs/310-dr-chan-chitat>) focuses on information and communication technology (ICT) research in human services, particularly in areas of youth services and youth development. Dr. Chan was a frontline social worker in the 1990s, worked in the field of ICT in education in the 2000s, and has been actively involved in social work research and education since 2010.

1. Young Asians Setting Out to Change the World

That young people yearn to “go places” and are passionate to “go see the world” is age-old. To understand such aspirations as merely transient would grossly miss the point on the fundamental paradigm shift that is happening.

Analogous to the seismic shift from the more intuitive Aristotelian belief that objects settle down and come to rest in their “natural place”, to the Newtonian understanding that objects actually continue to move in a state of constant velocity unless acted upon by an external force to slow it down; today, social science generally still understands migrants and people movement as a transient state, but mounting evidence is showing otherwise, compelling us to reconsider if “settling down” is in fact the natural state. People choose to move and remain mobile.

Technology, especially with the convergent and viral force of the Internet, has accelerated not only the speed of communications, but with it, the ferocity of outbound and inbound travel for work, study and leisure. Instead of seeing the Internet “pushing” the tempo, it maybe the removal of “friction” that is revealing our true inertia for exploration and curiosity. Mobility may be an end itself, not simply a means to a better life.



HandsProject.asia

Asia is a large, seismically active continent with the largest human population of any continent, hence natural disasters have also claimed more lives than any other continents. Nevertheless, **Asian cross-border collaborations** like HandsProject.asia shows commitment to lessen destructive potential of natural disasters by educating Asian youth to stand at the forefront of disaster prevention so the community can better understand disaster risk and resilience.

Research indicates that increasingly, the younger generation is less inclined towards the amassment of property and tangible assets, especially those that would tie them down. Millennials are redefining value systems and breaking free. Rather than investing into a beach house or a luxury car, millennials are investing into life experiences: travel, adventures, knowledge, starting a social enterprise, etc. Remaining mobile financially and geographically is replacing property ownership as a sign of success.

On one hand, studies consistently show that the number one concern of youth in Asia is employment. Job obsolescence coupled with the threat of AI (artificial intelligence) in redefining the labour market heighten

0.2 Remarks from Dr. Shanthi Robertson

There is significant statistical evidence that the current generation of young people globally are increasingly 'on the move'. The conditions of globalised modernity create economic as well as social imperatives that structure the lives and aspirations of contemporary youth in many parts of the world towards transnational movement, whether conventional forms of migration or other less permanent and less linear forms of mobility (Robertson, Harris and Baldassar 2017). Youth mobilities increasingly consist of 'blended', rather than discrete, 'stream' of mobility.

Youth increasingly seek 'mobility packages' of experiences, blending traditional study, training/work-integrated learning, extended tourist experiences, volunteering and paid work either sequentially or simultaneously. Visas or visas pathways that enable such 'packaging' can be effective policy tools e.g. post-study work visas, working holiday visas, internship and exchange programs.

Youth mobility measurement and policy needs to focus on impact of reciprocal and multi-directional circulations of capital, skills and people as a result of youth mobility rather than simple demographic measures of 'brain drain' i.e. 'out-migration' or 'brain gain' i.e. in-migration.

Circulations of social and cultural capital and technological and social innovation are driven by the physical mobility of young people as well as their digital networks across borders within the Asian region. Wealthier countries will benefit from increasingly out-mobility for future cultural capital within their workforce that will enable engagement with emerging regional markets as well as building 'soft diplomacy' links. Developing countries could benefit from making incoming transient mobility of students, professionals and creatives attractive and also from ensuring that local young people who leave are encouraged and supported to maintain ongoing relations with their home countries via investments and innovation, both social and financial. Policies that encourage return migration, diaspora engagement, cross-border innovations and talent exchange shore up the benefits of youth mobilities.



Dr. Shanthi Robertson (https://www.westernsydney.edu.au/ics/people/researchers/shanthi_robertson) is a sociologist and Senior Research Fellow at the Institute for Culture and Society at Western Sydney University. Her research interests centre on migration and transnational mobility, diversity, citizenship, youth and urban space. She is currently Chief Investigator on two Australian Research Council projects: an early career research

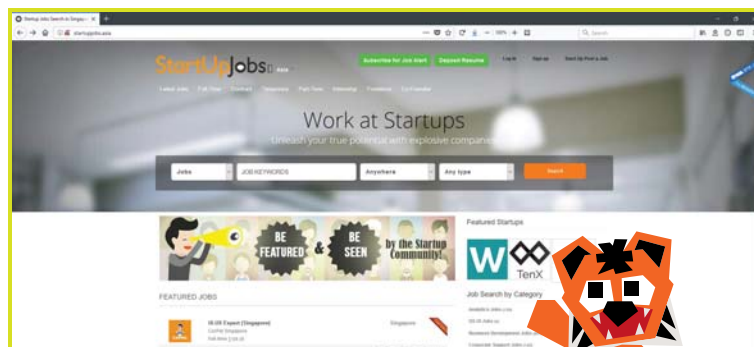
fellowship (DECRA) on temporality, mobility and Asian temporary migrants to Australia and a five-year collaborative Discovery Project on the economic, social and civic outcomes of transnational youth mobility for young people moving into and out of Australia for work, leisure and study. Her most recent publications appear in *Geoforum*, *Journal of Ethnic and Migration Studies*, and *Journal of Youth Studies*.

0.3 Remarks from Malavika Jayaram

The extraordinary growth of the mobile Internet across Asia Pacific carries the promise of a more inclusive digital economy, yet Internet experiences and their transformative potential are increasingly diverse. Other kinds of socio-economic metrics may be needed to grasp the differences. As crucial services and knowledge resources move increasingly online, the risk of a stratifying Internet and digital exclusion becomes an increasingly serious problem for those who depend (Page 6)

anxiety. Yet in response, instead of turning towards union and welfare type protection of past generations, today's youth is opting for mobility as a progressive form of stability and guard against personal downturns. Rather than climbing the corporate ladder, millennials are traversing through the network jumping from company to company and job to job. It is no longer a matter of valuing mobility over stability (or balancing between the two), but about the capacity for mobility in fact creating the sense of stability. Mobility is stability.

The "YOLO" (You Only Live Once) and "FOMO (Fear Of Missing Out)" mentality is driving young people to see more, do more and experience more. Not own more. Perhaps this post-materialism nevertheless, could allow us to produce sustainable growth to fuel an insatiable economy built on credit and hope for a better future. Mobility, for youth, is no longer just about socio-economical upwards mobility, but also geo-physical mobility, horizontal social mobility and digital mobility. In particular, digital mobility drives all other mobilities by removing barriers to information, resources, capital and talent. More than ever before, young people are able to pull together collaborative efforts across borders to innovate for social impact. The Youth Mobility Index (YMI.Asia) 2018 Report aspires to become the beginning of a journey inspiring and inviting further research and development on youth mobility in Asia. This in turn informs and influences government policies and corporate behaviours to break down barriers for mobility, with an ultimate vision to empower: Young Asians setting out to change the world.



StartUpJobs.asia

Did you know 28 years is the median age of startup founders in Singapore? **Millennial talents are mobile and willing to try new opportunities at home and often abroad.** Understanding this is crucial for emerging companies in Asia to attract and retain talents. Singapore based StartUpJobs.asia is an example of how startups are using this platform to acquire talents in and outside of its region.

DotAsia believes that a collaborative Asia means a peaceful and prosperous Asia. Mobility enhances understanding, encourages interchange and promotes tolerance across the diverse socio-cultural landscape of Asia, enabling a platform conducive to collaboration.

2. Youth Mobility as Competitive Advantage

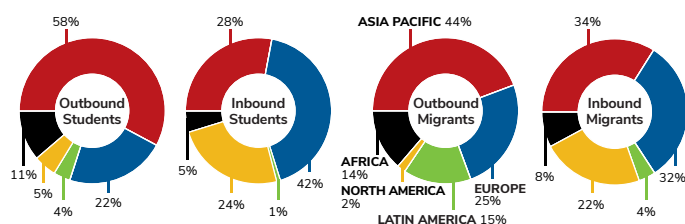
Youth mobility should be understood not as "welfare" to be subsidized but as competitive advantage to be invested in. At a national strategic level, youth mobility both outbound and inbound must be recognized as

an important policy component for workforce development. This includes encouraging a culture of and financially supporting local students and young professionals to go abroad to study or gain work experience, combined with policies to reduce inbound barriers for foreign students and young inbound migrants to arrive.

The debate, especially on professional/scientist migrants is shifting away from the “brain drain” vs. “brain gain” dichotomy towards “brain sharing”. Talent, in this sense is more akin to intellectual goods which increase in value for each shared consumption, unlike consumer goods where each consumption takes away value from the available resource (same bite of a hamburger cannot be shared between two people, but the “consumption” of a piece of artwork increases its value). Newer studies on migration patterns are showing that international mobility benefits all parties including net exporters of talent. Indicators such as “net” migrant data should therefore be less relevant. Instead, the total migrant “force” should be considered. In the case of Europe, the European Union is motivated in promoting youth mobility, outbound and inbound, among the member countries for many good reasons. The results from such programs are evident in the rate of increase in migrant movement in recent years. Critical reviews of the value however are mixed precisely because many journalists and politicians remain caught up in the brain drain/gain paradigm.

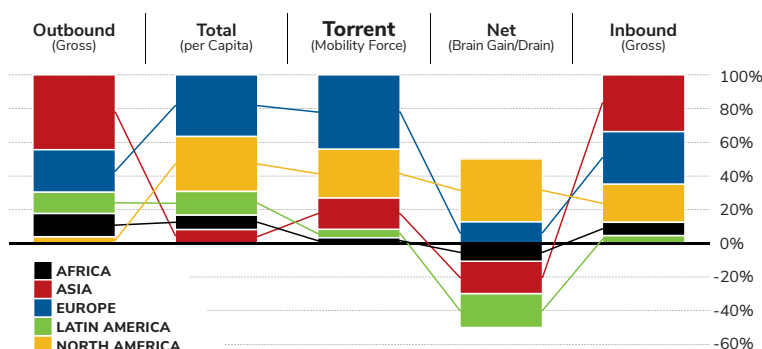
Number of Mobile Students & Migrants

% by Region (Outbound and Inbound)



Globally, Asia Pacific and Europe together represents about 70% of the worldwide mobile student and migrant population. Europe has a strong lead in inbound students, and at par with Asia for inbound migrants. Asia Pacific is the biggest exporters of students and migrants, representing almost 60% in outbound students and about 45% in outbound migrants. North America meanwhile has the biggest discrepancy between inbound and outbound migrants (22:2) and students (24:5), and thus ranks particularly high in the traditional net “brain-gain” paradigm. In order to consider the “total force” of the mobile population, inbound and outbound forces should be calculated in combination rather than in subtraction. Besides the sheer size of the mobile population, to calculate the effect of mobile population in a locality, i.e. the force, two other aspects are taken into consideration (3 in total):

- 1. Mobile population:** No. of outbound & inbound migrants & students
- 2. Rate of change:** “Speed” and “acceleration” of change in mobile population
- 3. Displacement:** Proportion of mobile population against the total population



This lends itself neatly to the physics model for “torque” or “moment” which describes the turning effect of a force. In short, the YMI model proposes a model defining “Torrent” (i.e. combined outbound and inbound movement of people) on a population, following the classical physics model for calculating the Torque (i.e. combined Moment = Mass x Acceleration x Distance) on an object. The Torrent is therefore the “mass” (i.e. total outbound/inbound) x “acceleration” (i.e. rate of change of rate of change) x “distance” (i.e. mobile population / total population). Further description about the model is explained in Appendix A.6.

When considering the sheer size of mobile population, Asia Pacific leads the world both in combined inbound-outbound migrants and students. However, when we consider the Torrent (T) generated by the mobile population, Asia Pacific falls to 3rd place for migrant mobility after Europe and North America, while retaining the top spot for student mobility. Further considering the Torrent felt per person (τ), Asia Pacific drops to the bottom for migrant mobility (considering the immense local population), and holds on to 2nd place for student mobility.

Combining migrant and student Torrents, Europe takes top spot, while Asia Pacific is at second place with North America closely behind. This contrasts with a pure net brain-gain/drain model which places North America well on top, Europe comfortably in second place and other regions in the negative (i.e. brain drain), with Asia Pacific at fourth place behind Africa. To better model the concept of “brain sharing”, mobility must not be measured only in terms of the actual movement of people but also the ability and incentives for people to move. Conditions that allow for an environment conducive to the circulation of people, ideas, capital and goods are important. Further discussion of the YMI approach to measure Movement, Motivation and Mobilization is included in Section 2.5.1 below. The conditions of motivation and mobilization are influenced by socio-economic policies. Components included in the YMI framework are designed to qualitatively measure indicators of favourable conditions for mobility. Most importantly, the YMI measurements aspire to support regional governance and collaboration and provide impetus for reciprocal policy arrangements that could encourage multi-directional circulation and exchange, such as reciprocal visa arrangements, capital flow and financial system restrictions, etc. across Asia.

2.1 Education, Employment & Entrepreneurship

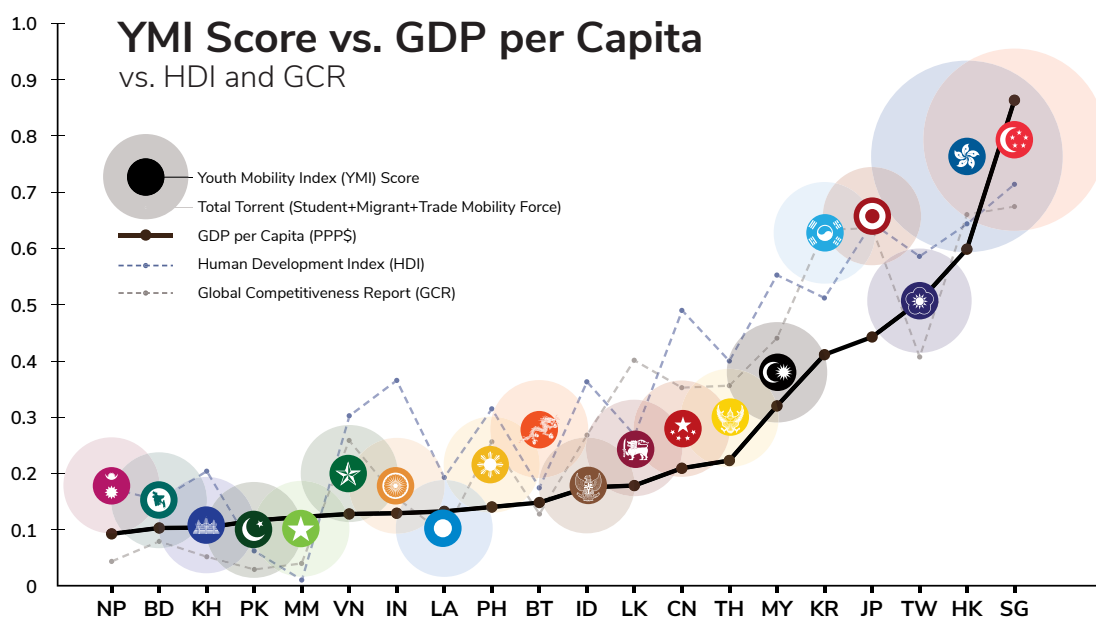
The journey for the development of the YMI began with literary research on the top social concerns of youth in Asia. While different regions experience different challenges based on the level of development, political situation, etc., one key concern expressed across the board is employment. The three main drivers for anxiety includes: 1. The widening income gap brought about by globalization and effects of an accelerating economy put pressure on our youth to “catch the train” and “stay on the bus” to avoid falling into poverty; 2. Increased speed of job and skill obsolescence caused by the changing dynamics of the knowledge economy which shifts much more rapidly than the industrial societies of the past; and, 3. The onslaught of AI (Artificial Intelligence) that threatens to replace human labour force with machines, amplifying points 1 and 2 above.

Therefore, even though employment is the number one concern, the chain of mobility spans the education and entrepreneurship sectors. Education, as a feeder of employment, and entrepreneurship as an alternative to employment. The story of a student leaving to study abroad and then staying there to find a job is a common one. Increasingly, leisure travel and working holidays are transpiring into social entrepreneurship.

2.2 YMI Score vs. GDP per Capita and other Indices

The YMI framework aspires to provide a robust set of tools to measure, understand and cultivate mobility relevant for the younger generation, and thus the future of the socio-economic environment for a locality. Furthermore, driven by an Asia-wide vision, the YMI framework hopes to also inspire enhanced regional collaboration to support mobility as a competitive advantage shared across Asia in a brain-sharing paradigm.

In comparison with GDP per capita numbers, YMI scores show a 94.1% correlation, whereas correlation coefficient against two other widely referenced indices: Global Competitiveness Index (GCI) and the Human Development Index (HDI), are 87.2% and 92.5% respectively.



The high correlation rate between YMI and the other indices confirms a solid basis for comparative studies. The differences between the YMI score and other indices therefore provide insights into the relative youth mobility within a particular locality in relation to such other index.

2.2.1 GDP per Capita

GDP per Capita is one of the most widely used reference economic indicators. Based on the resulting comparison chart, it appears that those localities with a YMI score above the GDP per capita line are punching above their weight, whereas those who are below the GDP per capita line may be seeing signs of an aging economy.

Korea, Japan and Hong Kong jump out well above the GDP per capita reference line. What is interesting to observe is also the exponential nature in all 3 of the GDP per capita benchmark, the YMI scores themselves, and the YMI score advantage. Interestingly, Singapore's YMI score is hitting below their GDP per capita reference. While Singapore took the overall top score in the YMI 2018 rankings, it remains to be seen whether Youth Mobility in previous years may have pushed forth the GDP more strongly and is now receding, or that a sustained high mobility actually catapulted the GDP forward. Better conclusions can perhaps only be more dependably drawn in a few years' time when we have a better historical trend available for YMI scores.

Meanwhile, Taiwan is also hitting below their weight, but in this case, it

appears that it has fallen into an aging industrial economy. This is observed by the local analysts as well as the Taiwanese government, which recently has become more proactive in supporting youth mobility by encouraging students to study abroad, and to introduce working holiday visas as well as special visa convenience for startups to be established in Taiwan. Based on the YMI score to GDP per capita differential, Malaysia and Bhutan are up and coming economies to be watched, along with a strong showing from Thailand, Sri Lanka, Philippines, Vietnam and Nepal as well.

2.2.2 Global Competitiveness Index (GCI)

"The Global Competitiveness Report... assesses the competitiveness landscape of 138 economies, providing insight into the drivers of their productivity and prosperity." (<https://www.weforum.org>) GCR is an annual report published by the World Economic Forum. The Global Competitiveness Index (GCI) combines a total of 114 socio-economic indicators including macro- and micro-economic aspects into 12 pillars and calculated to a single final score.

In comparing the GCI scores vs. YMI scores, where the YMI score is higher than the GCI reference, it can be interpreted as the locality having a stronger Youth Mobility Advantage over its general competitiveness. Singapore, Hong Kong and

Korea compares well above their respective GCI score, indicating that there is a Youth Mobility Advantage over the general competitiveness. Japan and Taiwan also sees some Youth Mobility advantage, along with a strong showing by Bhutan.

Many components of the GCI is also used in the calculation of the YMI score, especially components of the Executive Opinion Survey within the GCR. According to the Global Competitiveness Report, the GCI utilized a total of 114 socio-economic indicators to produce the index. In comparison, YMI utilized a total of 216 socio-economic indicators, especially including student, migrant and trade mobility indicators, youth advantage indicators and Internet utilization indicators.

2.2.3 Human Development Index (HDI)

"Human development – or the human development approach - is about expanding the richness of human life, rather than simply the richness of the economy in which human beings live. It is an approach that is focused on people and their opportunities and choices" (<http://hdr.undp.org/en/humandev>). The Human Development Index (HDI) is designed to describe the development conditions in a particular economy by focusing on 3 underlying aspects: education (the attainment level and expected years of schooling), income (relative per Capita income against GNI) and health (life expectancy rate). Comparative study between the HDI and YMI scores show similar pattern as with the GCI, i.e. that the top 5: Singapore, Hong Kong, Japan, Korea and Taiwan continue to hold a

commanding lead on Youth Mobility development over the general development conditions. The differentials may provide insight in the youth mobility development in comparison with the development of general well-being of the society.

The HDI is composed of 3 indices: Education Index, Gross National Income (GNI) Index and the Health/Life Expectancy Index. Each of the 3 individual indices are incorporated into the Sustainability Factor for the 3 Core Sectors respectively: Education Mobility, Employment Mobility and Entrepreneurship Mobility. Further details on the methodology is included in Appendix A.6.

2.3 Beyond Michael Porter's National Diamond

In "The Competitive Advantage of Nations" Michael Porter laid down one of the most referenced tools for comparative analysis between countries and localities. The Porter Diamond Theory of National Advantage is not only about competition between nations or localities but also for mapping out corporate strategy within and across particular localities. This echoes well with the YMI approach to inform local policies as well as support youth.

Built mainly upon the successful experience of now developed countries, one of the main criticisms for Porter's Diamond is that it fails to take into account dynamics brought about by already leading or even dominant economies. Youth mobility as an additional dimension for the four corners of the Porter Diamond, has a promise in filling that gap by taking into consideration the multi-dimensional aspects of mobility (social, geo-physical and digital) within each component, in reference to other countries and/or localities.

More importantly, the incorporation of youth mobility considerations fundamentally overturns and updates the foundational assumptions of the original model (<https://hbr.org/1990/03/the-competitive-advantage-of-nations>).

Thus we are moving from a closed system paradigm: based around the exploitation of finite resources, exploitation of proprietary knowledge, along with protective inbound policies and expansive outbound policies; to an open system dynamic: based on a brain-sharing paradigm with indefinite value potential, collaborative research and development, with lowered barriers not only for capital and goods flow but also open for ideas, people, knowledge and most important of all – opportunities and experiences.

2.3.1 Factor Conditions / Endowments

"The nation's position in factors of production, such as skilled labour or infrastructure, necessary to compete in a given industry." Porter's original model makes the insightful observation that factors of production are created, not inherited, and that globalized strategies can circumvent endowed material resources and draw upon a global pool of talent. Nevertheless, Porter's assumption remains based around the exploitation of a brain gain paradigm albeit on a global scale across private enterprises.

Youth mobility turns that assumption around by focusing on the movement, motivation and mobilization of talent and other factors of production in a knowledge economy, including information, ideas and experiences in a brain-sharing paradigm that understands both inbound and outbound flow as potentially beneficial, with emphasis of the network effect rather than proprietary exploitation.

(Page 4) on support and services most. (Julian Thomas (2016): The Stratifying Internet: Measuring digital inclusion in the mobile era)

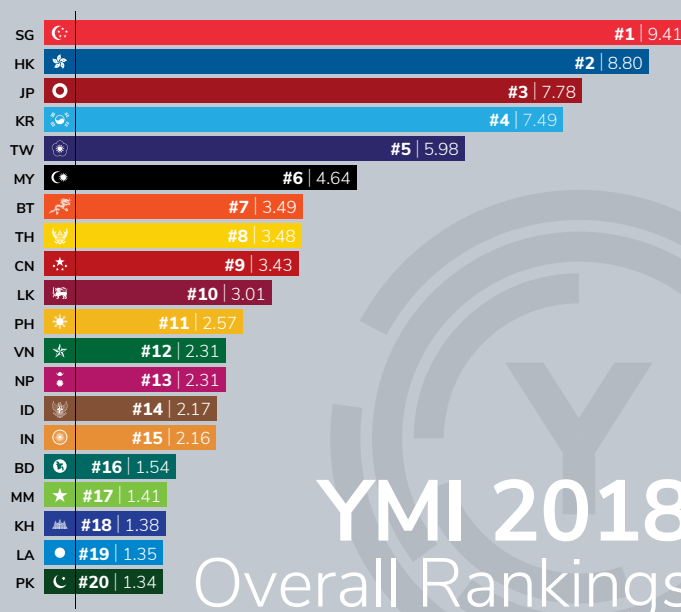
China now leads the world in mobile payment (86% vs. 43% percent global average), and online commerce penetration (98%). This is not confined to China's leading cities, even a Tier 3 city in China now offers many online mobile-access conveniences surpassing those in leading Asian cities like Singapore, Hong Kong, and Tokyo. Key factors underlying this shift include China's mobile-native population which largely skipped desktops and laptops and went straight to personal mobile devices and a strong latent entrepreneurial capacity. (Samuel Chua (2017): Lead Leapfrogger: Chinese O2O Commerce and The Nature Of Cultural Innovation)

While there are many ways on the Internet that viewers can challenge oppression, the audience's unquestioned faith in the Internet smother dissent and critique. (Renyi Hong & Digital Asia Hub (2016): #Coke-Drones and the Good Life: Migrant Workers in Singapore and the Politics of Recognition)

The YMI framework provides a comprehensive set of indicators for youth digital mobility to be considered, and can be a valuable tool to support collaborative research, knowledge sharing and capacity building related to Internet and Society issues with focus on digital Asia.



Malavika Jayaram (<https://www.digitalasiahub.org/governance/executive-director/>) is the inaugural Executive Director of the Digital Asia Hub. Prior to her relocation to Hong Kong, she spent three years as a Fellow at the Berkman Klein Center for Internet & Society at Harvard University, focused on privacy, identity, biometrics and data ethics, and eight years in London, with the global law firm Allen & Overy in the Communications, Media & Technology group and as Vice President and Technology Counsel at Citigroup. In August 2013, she was voted one of India's leading lawyers – one of only 8 women to be featured in the "40 under 45" survey conducted by Law Business Research, London. She was a Visiting Scholar at the Annenberg School for Communication, University of Pennsylvania, and has had fellowships at the University of Sydney and the Institute for Technology & Society, Rio de Janeiro. She is on the Advisory Board of the Electronic Privacy Information Center (EPIC).



Furthermore, in relation to firm competition/rivalry, but focused on the competition of talent as a factor condition, youth mobility components provide insights into the attraction and retention of talent not by locking down but by enabling and enhancing labour mobility as an end itself, i.e. the understanding that mobility is a reward and an intrinsic enhancement in and of itself for youth.

2.3.2 Demand Conditions

“The nature of home-market demand for the industry’s product or service.” Porter’s model identified an important realization that home-market demand remains essential even in a globalized economy. However, Porter’s interpretation focused on the export of local values and tastes through foreign activities undertaken by firms. Youth mobility concepts modify this with an understanding that competitiveness is built on more than the export of local values and tastes built on a vibrant local market, but that enhanced inbound and outbound mobility informs and enhances local values and tastes into experiences that can better resonate with the global market.

Such enhancement is not about homogenization, but rather the appreciation and celebration of diversity. The diversity within the home-market is enriched through enhanced mobility. More specifically, the migrant population provides pockets of local community that allow local firms to be better prepared for global expansion.

Competitiveness is therefore built on multi-dimensional mobility for local participants to virtually join geo-physical clusters as well as form and join virtual clusters irrespective of geo-political barriers. Youth mobility provides an indication of readiness for nations to compete through leveraging virtual clusters.

2.3.4 Firm Structure, Strategy and Rivalry

“The conditions in the nation governing how companies are created, organized, and managed, as well as the nature of domestic rivalry.” Local firm rivalry is the cornerstone of the Porter Diamond. Porter’s vision remains valuable in particular where local competition is important in developing “winners” and preparing local firms to compete in the global market.

The study of youth mobility and the emerging values arising from it, especially as amplified by Internet development, points to a different kind of competitive environment than Porter’s original studies. The open standards and open platform of the Internet brought forth the concept of permissionless innovation which views closed proprietary systems as anti-competitive in nature.

While Porter’s conclusion in 1990 rejects collaboration, the Internet’s open standards, open protocols approach led the way for the open source movement, open knowledge, which together opens up a new paradigm for collaborative research and development as a source of competitive advantage. Youth mobility concepts embraces the multi-dimensional movement of talent which is vital for collaborative research. The understanding and incorporation of mobility concepts reinforces Porter’s model and fundamentally reforms it at the same time.

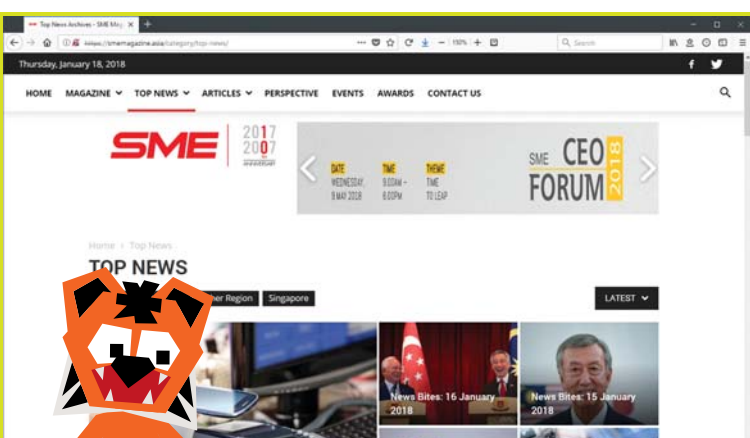
2.4 Transforming Richard Florida’s 3Ts

Another definitive and widely referenced framework for urban development and comparative studies between localities, especially in their ability to attract the “creative class” is Richard Florida’s 3Ts. In “Rise of the Creative Class”, Florida laid out the foundational insights of the virtuous cycle of the 3Ts: Technology and innovation drive competitiveness. Technology requires talent; talent loves tolerance; tolerance supports technical breakthroughs. Florida makes a strong and convincing argument that localities that are able to attract young, educated, and tolerant people will have the advantage in transforming industry and building a prosperous urban core.

One of the main criticisms of Florida’s framework however is that his vision of the 3Ts in fact attracts only those young and already affluent to the cities, pushing away the underprivileged, exacerbating social and economic inequalities. In fact, in his latest volume “The New Urban Crisis” in 2017, Florida makes an acute reckoning that his creative classes are creating a stranglehold on the world’s great cities, and offers remedies pointing towards affordable housing, public infrastructure, and higher wages for the service class. This can perhaps be summarized as enhancing youth mobility.

2.4.1 Talent Mobility

Talent loves tolerance. Talent thrives on mobility. Unlike Florida’s model of relatively distinct “classes”, or more specifically: the Creative Class and the Service Class, mobility blurs the line. In a post-industrial and post-materialism context of the millennials, class-struggles are no



SME magazine.asia

According to SME magazine.asia, Malaysia’s government has poured large-scale initiatives like the Malaysian Global Innovation and Creativity Centre (MaGIC) to accelerate the growth of entrepreneurship in their region by partnering with 17 Southeast Asian communities. **Entrepreneurs are further supported with a growing network of crowdfunding platforms like CrowdPlus.asia** which helps to kick start new companies and products in their region.

2.3.3 Related & Supporting Industries

“The presence or absence in the nation of supplier industries and other related industries that are internationally competitive.” Porter understands national (or local) industrial organization in terms of geo-physical clusters of internationally competitive enterprises from supporting and related industries. Enhanced mobility, especially supported by Internet technologies allows for virtual clusters to be formed in addition to national clusters.

longer relevant points of debate. Competition of ideas remain relevant. Young minds fight to move, to be moved, and to move others.

In order to be moved and to be able to move (or mobilize) others, youth mobility must be considered in a multi-dimensional and multi-purpose construct, built on but not only about social mobility and geo-physical mobility. Horizontal mobility across jobs, roles and professions, sometimes simultaneously, and possibly traversing creative and service classes are symbols of talent mobility: software architect by day, uber driver by night; bartender by night, hacker by day, etc. This is especially supported by digital mobility – the ability to move around and “move mountains” in cyberspace.

2.4.2 Technology Mobility

Technology requires talent, and technology attracts talent. More importantly, technology attracts investment. Capital mobility together with talent mobility drives technology innovation. More fundamental however is digital and technology mobilities as a “soft” component of public infrastructure. It is not just about the hardware nor even the operating software, but the architectural openness of the public infrastructure that will define mobility and competitiveness.

Roughly speaking, smart cities built on open standards and open technology attracts innovators who can leverage the open infrastructure. Closed and proprietary platforms provide a false sense of security (security by obscurity), stifles innovation and favours the incumbent. Legal frameworks that support privacy and rights by default in technical platforms invite business and technical innovation. Frameworks that purport to be purely “market driven” allow corporations to over exert their market power to exploit personal privacy, and favours data amassment which serves as barriers of entry for new innovations. Technology mobility therefore is not only about the technical layer, but traverses the socio-economic, legislative and political layers.

2.4.3 Tolerance to Sustainability

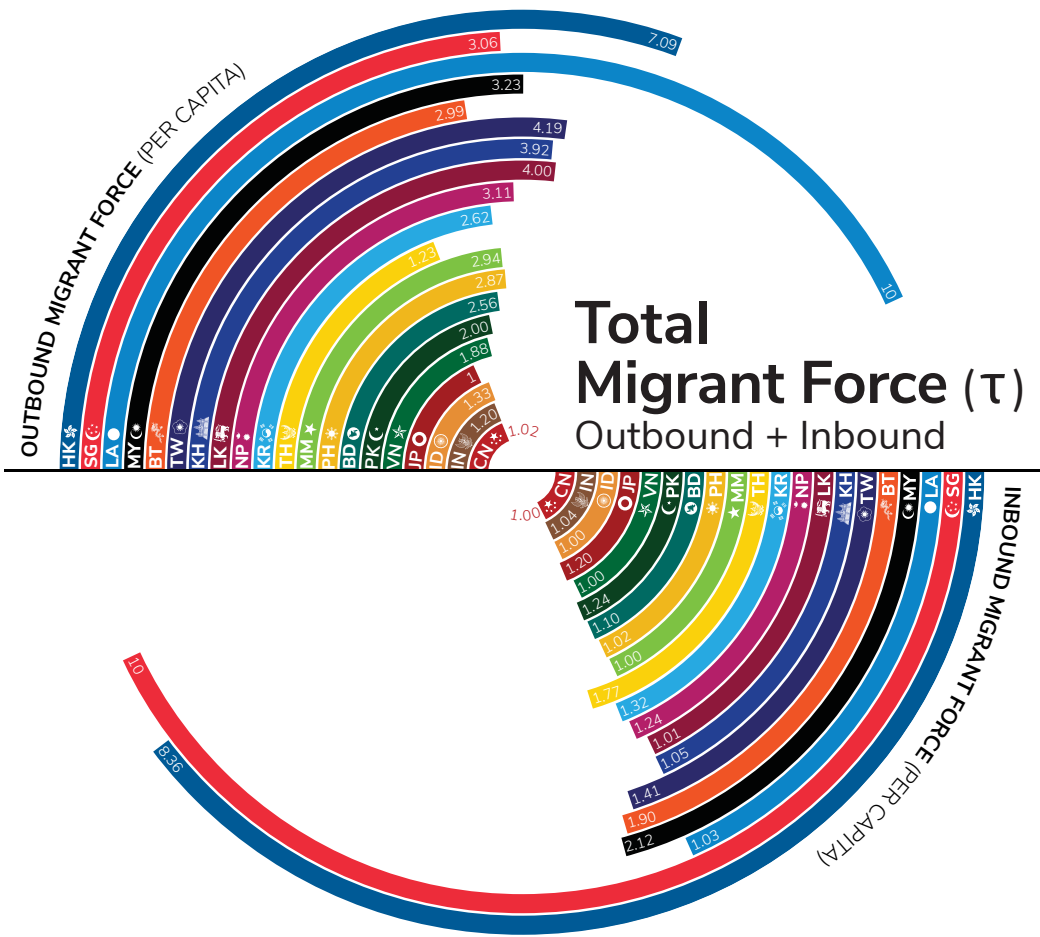
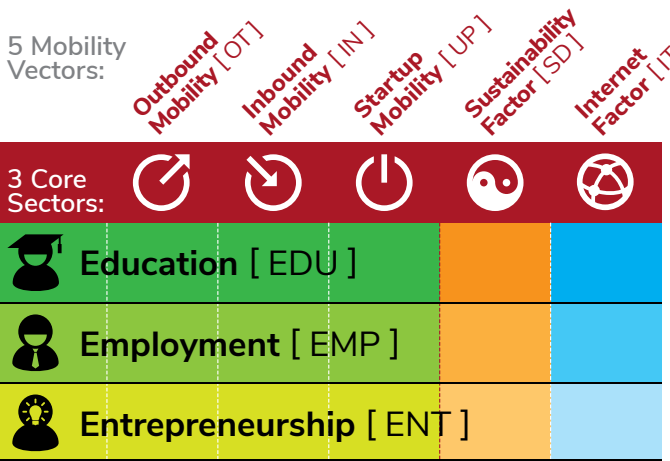
A community with high mobility is by definition a tolerant society. Mobility, as defined by the combination of vibrant outbound and inbound movement, means that a locality must both be open for its members to engage in outbound travels and expeditions, as well as be conducive to a broad range of transient inbound population, and thus implicitly be a tolerant space. Thus, in the reverse, level of social tolerance is a good indicator for mobility.

To include social tolerance as a core component in measuring competitiveness is an important insight. In light of Florida’s own observations in “The New Urban Crisis”, tolerance alone however is not sufficient. Rather, building on and expanding from tolerance, sustainable development is what is needed for

continued attractiveness for talent. Sustainability-mindedness also provides the right incentives and parameters for technical innovation. Together, Florida’s 3Ts can be redefined and reinforced with mobili-T-y at the core and sustainabili-T-y as a directive.

2.5 Measuring Youth Mobility

Building on the tri-factor concern: Education-Employment-Entrepreneurship for youth across Asia, and their drive for mobility, the framework for the Youth Mobility Index (YMI) is laid out in a matrix of the 3 Core Sectors: Education Mobility; Employment Mobility; and, Entrepreneurship Mobility; across 5 Mobility Vectors: Outbound Mobility; Inbound Mobility; Startup Mobility; and, Sustainability Factor.



The mobility vectors are roughly organized based on the insights of Florida's 3Ts. The Base Vectors: Outbound, Inbound & Startup Mobility, corresponds to Talent, whereas the Prime Vectors: Sustainability & Internet, corresponds to Tolerance and Technology respectively.

Within the Base Vectors, each Component is built on 4 Indicator Compounds describing 4 dimensions appropriating the concepts from Porter's Diamond (details of the methodology is included in Appendix A.6):

1. **People:** *Factor Conditions* – the movement and mobilization of people
2. **Economics:** *Demand Conditions* – cost motivations, wages, etc.
3. **Environment:** *Related & Supporting Industries* – sectoral conditions
4. **Policies & Systems:** *Firm Structure, Strategy & Rivalry* – visa requirements, school systems, etc.

2.5.1 Movement, Motivation and Mobilization

In measuring Youth Mobility, the actual outbound and inbound movement of people is of course important. The ability to be mobile however is impacted by other dynamics such as individual capacity (e.g. language skills, education level, etc.); socio-political conditions (e.g. visa requirements, social tolerance for migrants, etc.); economic conditions (e.g. access to finance, purchase power parity, etc.); as well as motivations for moving (e.g. to seek a better life).

In the Youth Mobility Index (YMI), one-third of each of the $4 \times 3 \times 3 = 36$ Indicator Compounds within the Base Vectors (Outbound, Inbound & Startup Mobility) are designed to measure:

- i. **Movement:** the actual movement of people
- ii. **Motivation:** conducive conditions supporting movement, and
- iii. **Mobilization:** capacity and ability to move

2.5.2 Dimensions of Mobility

The YMI framework extend beyond the conventional social mobility or upwards mobility concept. Upwards mobility remains important, for millennials however, a multi-dimensional mobility approach is more relevant. In considering multi-dimensional mobility, conventional trade flow components are examined and expanded with capital and labour flow, goods and services flow, and information and technology flow.

Social mobility: Social mobility remains important and a base measure of overall mobility. The YMI framework includes components of salary growth and wage advantage as well as literacy advantage, youth unemployment gap, and education mobility as a foundation for social mobility.

Capital & Trade Mobility: Capital and trade flow indicators are recombined with emphasis on youth mobility. The YMI framework includes components of actual goods and services (export and import) indicators as well as foreign exchange (FX) stability, startup capital availability, and entrepreneurship mobility as integrated indicators.

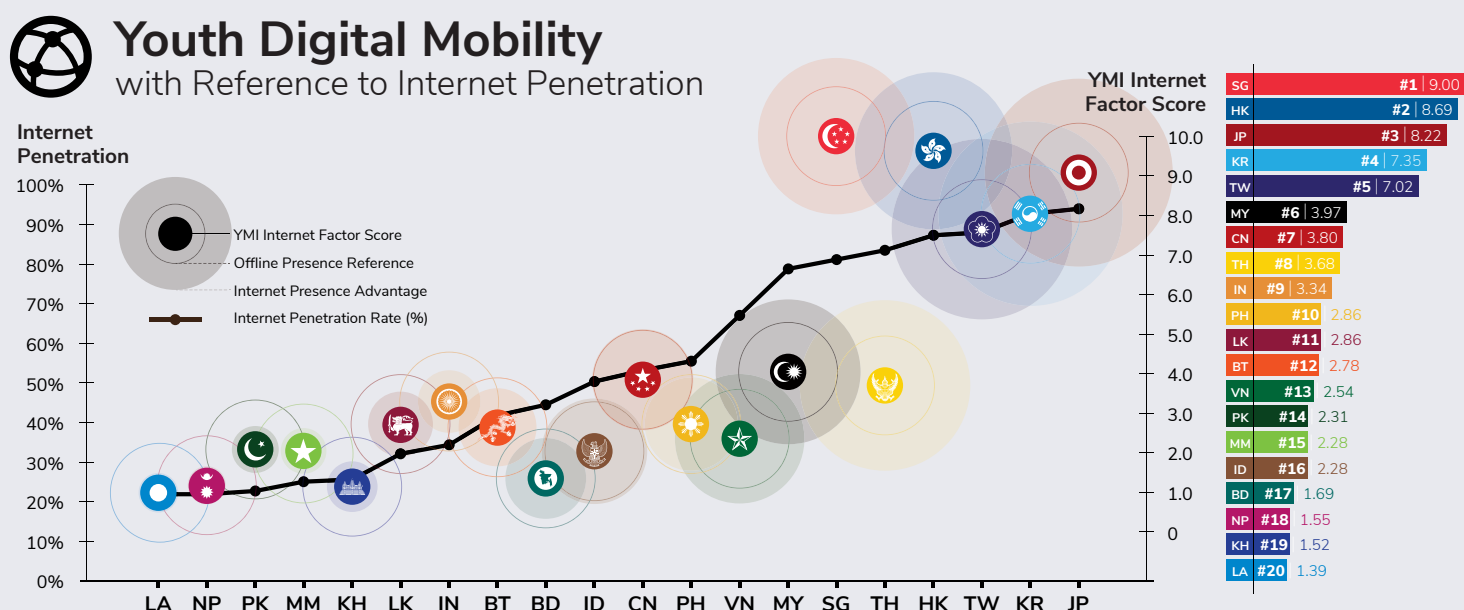
Geo-Physical Mobility: Movement of people along with policies and infrastructure to enable such movements (e.g. visa, airline seat availability, logistics etc.) are included. Additionally, social tolerance and comprehensive freedom indicators incorporated in Sustainability Factors are included to augment actual geo-physical movements.

Digital Mobility: As the industrial world moves from labour intensive to capital intensive to data intensive flows, digital mobility becomes more than simply information and technology flow, it also becomes the ability for people to access and traverse the global cyberspace. The YMI framework places emphasis on digital mobility by including considerations such as weighted scores for eVisa availability, ICT goods and services flow, etc., in addition to Internet Factors drawing on utilization of MOOC (Mass Open Online Courses) and other components.

Digital mobility is about the capacity and empowerment of youth to access knowledge, exchange ideas, as well as to participate and mobilize others online.

2.5.3 Internet Advantage

Building on Internet Factors as a prime vector for the YMI framework, a particular emphasis is placed on modelling Internet Advantage. Many of the Internet Factors express the advantage of Internet presence or technology utilization advantage, e.g. youth digital native over general population, IPv6 utilization over IPv4, and Internet population advantage over world population, etc.



2.5.4 Youth Advantage

Another aspect incorporated into the YMI framework are elements highlighting Youth Advantage. 4 Indicator Compounds are specifically designed to model Youth Advantage:

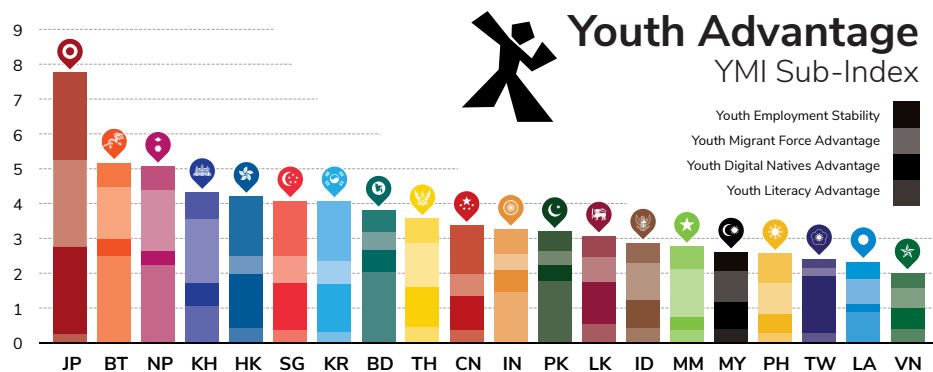
1. Youth Digital Native Advantage
2. Youth Literacy Advantage
3. Youth Migrants Advantage
4. Youth Employment Stability

Combining and focusing on Youth Advantage numbers, Japan surprisingly is at the top, with Bhutan and Nepal coming in at 2nd and 3rd place respectively. In general, developing regions tend to score higher in Youth Advantage components, for example, having a higher youth literacy rate versus a general population literacy rate (whereas in developed regions, they tend to both be close to 100% and therefore the youth mobility advantage is less). Japan ranked #1 in 3 out of 4 Youth Advantage compounds, especially with Youth Migrant advantage. This shows a clear relation to policy support in attracting aspiring young migrants into Japan. For more detailed analysis, please see Section 3.1.2.1 below.

In addition, a sub-index within YMI was developed: Life Experience Index (LifeX) to replace conventional Quality of Life indices with an emphasis on youth mobility. LifeX took apart usual Quality of Life components and reassembled them, deemphasizing elements such as availability of hospitals and property ownership, and adding life experience components such as museums per capita, esports engagement level and performance, roller coasters per capita, etc. More discussion and analysis is included in Section 4.2 below.

2.6 Against Youth Mobility

Some schools of thought remain unfavourable for mobility. Conservative labour movements, anxiety that migrants could compete for local jobs, international students competing for local university capacity, and the fear of “brain-drain” remain real socio-economic considerations,



even when more progressive and liberal research indicates benefits otherwise. This is especially true in countries being hit with influx of migrants (and refugees), including the US and Europe. The case in Asia is particularly interesting. Driven by interest to study abroad and learn from the west, especially since the colonial times, outbound student and youth migrants have been favourably viewed. Developed regions nevertheless have experienced a contraction of outbound youth. Government programs to stimulate mobility are generally supported without popular opposition. Even so, capital flow, especially in the wake of hot money, overwhelming inbound tourists, digital warfare and other foreign digital interference or intervention, brings caution to unfettered mobility.

While this paper accepts that youth mobility has its own discontents, the YMI framework will not attempt to delve into the detailed concerns against mobility. Some measures are taken, such as removing refugee numbers from inbound migrant numbers, however on the whole, the YMI framework makes the assumption that young people are more likely to value their ability to go places than towards protectionism.

2.7 Further Studies & Continued Improvement

The YMI 2018 set of data is by no means an exhaustive representation for each of the 20 localities studied. As an index, the YMI framework can at best only serve as an indicator of relative levels of mobility. The data sources and compilation computations can and will also be improved over time. Also, only until a track-record of results can be accumulated and compared against other socio-economic indicators, can some of the hypothesis of the YMI findings be better interpreted.

In the course of the development of the YMI 2018 rankings, along with feedback from youth and from professionals working with and academics studying youth and mobility, the following areas have been identified for possible improvements for the upcoming years.

2.7.1 Qualitative & Regional Analysis

YMI is focused on quantitative comparative studies across multiple localities in Asia. Based on the YMI scores and rankings, more in depth qualitative analysis, surveys and/or case studies could be conducted to further test the hypothesis from the YMI findings, as well as to inform improvements of the YMI compilation of indicators.

Studies on particular localities as well as comparative studies across localities will both be useful to enrich the YMI methodology and to support and inform policy development, especially for regional and reciprocal policies to enhance youth mobility.



FutuReady.asia

FutuReady Asia hopes to be a **catalyst for action inspiring youth** to make decisions and implement plans to improve their quality of life. With its sight set on imparting relevant skills to the next generation, FutuReady Asia engages in Assembly Programmes, workshops and camps for youth, regardless of race, socioeconomic status, or interests. Specializing in youth development, FutuReady Asia hopes to encapsulate character and values into customised programs to nurture and embrace young lives.

2.7.2 Expanding Consideration for Gender Equity

While Gender Equity is included as an indicator within the YMI 2018 framework, it plays a relatively minor role. Expanded analysis on the impact of gender on mobility may be useful. For example, similar to the urban population vs. total population sensitivity analysis, studies utilizing gender disparity in student mobility force and migrant mobility force may reveal other observations.

Based on such analysis, further consideration for the adjustments and/or augmentation of the YMI may be needed to provide a complete picture of youth mobility in a particular locality.

2.7.3 Youth Open-Mindedness & Tolerance

Youth mobility, especially digital mobility is generally assumed to have a direct relation to open-mindedness and tolerance of a community. However, is this assumption correct? Some findings are indicating that as the Internet develops, especially with the influence of algorithmic presentation of information, young people, while theoretically extremely mobile, is in fact seeing more and more of less diverse opinions – echo chambers reinforcing silos and hurting open-mindedness.

Further study to consider the correlations of such openness and mobility will be needed to better identify appropriate indicators for measuring mobility in a more meaningful way.

2.7.4 Internet Universality Indicators

In general, Internet Factor components could be further refined with the support from organizations where user data relevant to digital mobility can be consistently obtained. For example, participation data on social media, at Internet governance related conferences, etc.

While this inaugural edition of YMI is being developed, a set of Internet Universality Indicators is also being developed in parallel, separately at UNESCO, based on its R-O-A-M framework describing four principles which have been fundamental to the development of the Internet (<https://en.unesco.org/internetuniversality/about>):

- R – that the internet is based on human Rights
- O – that it is Open
- A – that it should be Accessible to all
- M – that it is nurtured by Multistakeholder participation.

Future instalments of the YMI report will look to incorporate the ROAM framework into its compilations. Furthermore, the efforts and experience from the YMI work can also contribute to the ROAM Internet Universality indicators.

3. The Asian Tigers in the Asian Century

The tiger is a symbol of prowess, progressiveness and above all Asia. The term “Tiger Economy”, which originated from the Four Asian Tigers: Hong Kong, Singapore, Taiwan and South Korea, is used to describe rapid economic growth along with marked increase in quality of life in a particular economy. Later, the term expanded to “Tiger Cub Economies”, collectively referring to the economies of the developing countries of Indonesia, Malaysia, the Philippines, Thailand and Vietnam. There is also the awakening of the giant tigers of China and now India.

Based on the results from the Youth Mobility Index (YMI) 2018 rankings, it appears that the Asian tiger and tiger cub economies remain the leading pack along with Japan, with a surprise prance from Bhutan and Sri Lanka. The giant tigers of China and India while awoken in gross economic might remain sluggish in supporting disruptive mobility for youth.

3.1 Original Asian Tiger Economies

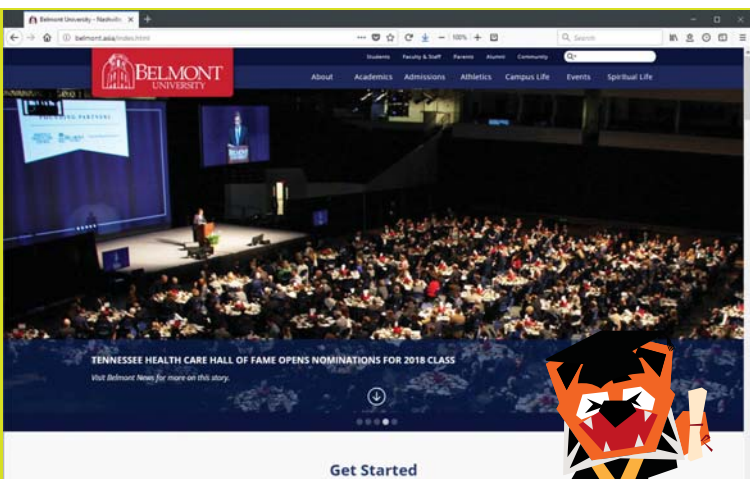
The Asian Tiger Economies remain a relevant terminology and grouping for considering and comparing socio-economic development. Japan plus the original Four Asian Tigers: Hong Kong, Singapore, Taiwan and Korea remain ahead of the game in the Youth Mobility Index (YMI).

Equally, as the economies and populace from these leading economies grow and mature, they are already also looking to reinvent themselves through encouraging outbound mobility of students and young professionals and attracting inbound educated youth migrants by policy and by developing strong digital infrastructure.

3.1.1 Singapore & Hong Kong

As the leading Asian tigers, Singapore and Hong Kong are ahead of the pack by a substantive margin. Between the two rivals, the scores come very close, with Singapore and Hong Kong taking top spots in 16 and 13 out of the 60 Indicator Compounds respectively and both claiming 5 top scores each out of the 15 Mobility Components, as well as 1 of the 3 Core Sectors within the YMI framework.

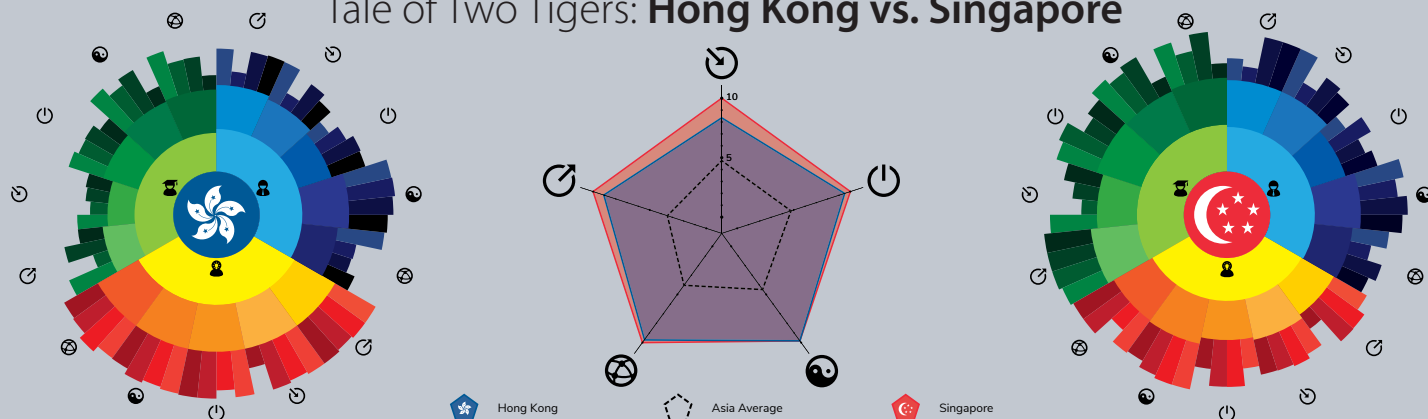
While Singapore and Hong Kong are even in the total number of top scores in Mobility Components, Singapore came in with a better all-round scoring across the board, contributing to it sweeping the top



Belmont.asia

Based on New Jersey Minority Educational Development's statistical data gathering, they have ranked **South Korea as the best country on the planet for education in 2016**. However, UNESCO states that 108,047 Korean tertiary-level students leaves to study abroad and 59% studies in the United States. There are major contributors to study abroad programs in the United States similar to those offered by Belmont University (Belmont.asia/study-abroad/) which help students gain language, cultural experience, increase their skills in the global marketplace and offer financing options for studying abroad.

Tale of Two Tigers: Hong Kong vs. Singapore



ranks in the combined score for all 3 Base Mobility Vectors (Outbound, Inbound and Startup), and 4 out of the 5 combined Mobility Vectors. Singapore is second place only to Korea in the Sustainability Factor category. Together, Singapore is firmly in the lead for overall #1 in the YMI 2018 rankings.

Supported by strong English proficiency, quality primary and secondary school system, Singapore takes top spot for the overall score in Education Mobility. This reconciles with the top score for Singapore also in the Education Index within the United Nations developed Human Development Index.

Meanwhile, Hong Kong has a dominant showing in Entrepreneurship Mobility, sweeping all 3 Base Mobility Vectors within the Entrepreneurship sector, and 4 out of 5 in Entrepreneurship Mobility Vectors, settling for second place only to Japan in Sustainability Factor. Furthermore, Hong Kong is also very strong in total Torrent (combined outbound and inbound students, migrant, travellers, goods and services).

While Singapore and Hong Kong dominated the first 2 places in all 4 Torrent measures, Hong Kong took the #1 spot for 3 out of 4 combined Torrents included in the YMI framework: Migrant Force, Traveller Force and Import-Export Force. The one area that Singapore had a lead on Hong Kong is Outbound-Inbound Student Force.

3.1.1.1 Happiness Deficiency

Intriguingly, both Singapore and Hong Kong find themselves at the bottom of the pile when considering Cost-Happiness Performance, i.e. the level of happiness over the cost of living. Hong Kong is left at the very bottom, with Singapore at 18th place, edging over Korea in 19th. This could be the beginning of positive results from active promotion of national happiness in Singapore in recent years upon finding itself consistently at the lower end of the spectrum in global happiness reports. Further discussion specifically on Cost-Happiness Performance is included in Section 4.1 below.

3.1.1.2 Urban Population vs. Total Population

With Singapore and Hong Kong having a commanding lead on the YMI rankings, a special study was conducted focused on sensitivity analysis of how the scores may be affected if youth mobility was assumed to be relevant to the urban population only, i.e. replacing per capita calculations to per urban population.

The results were interesting and pleasantly surprising. The top 6 and the bottom 2 spots resulted in no change at all. While only 9 localities saw minor changes of plus or minus one or two ranks, with the biggest jump forward seen for China (from #9 to #7) and India (from #15 to #13).

Most importantly, the results seem to suggest that the YMI methodology is sound. With the incorporation of a balanced and prolific array of social, economic and technical indicators, the YMI framework is tolerant to errors and fluctuations in individual scores, and appears to be reflective of the relative youth mobility condition in the respective localities.

3.1.2 Japan, Korea & Taiwan

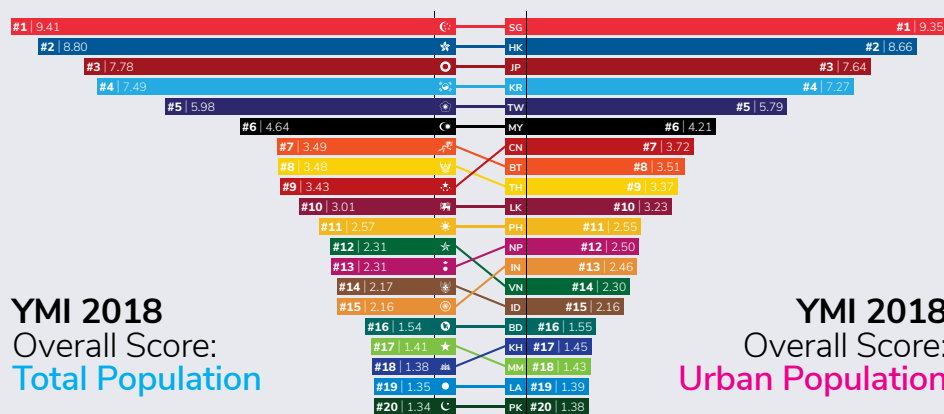
Immediately behind Singapore and Hong Kong are Japan and Korea, followed further by Taiwan.

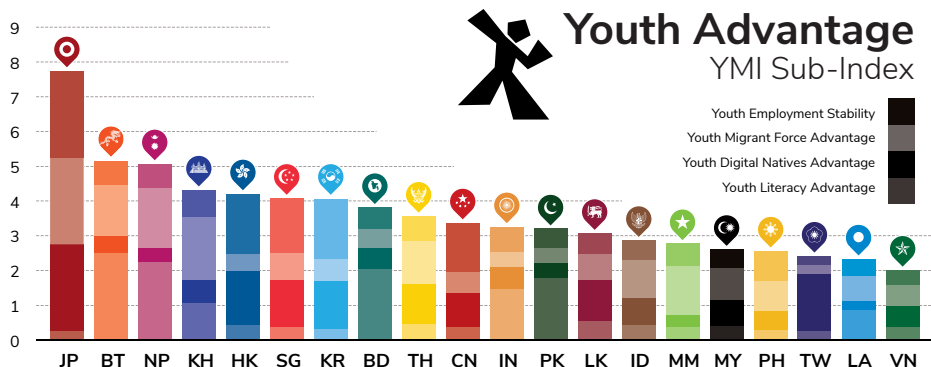
3.1.2.1 Japan: #1 Youth Advantage & #1 Employment Mobility

Supported by strong qualification reputation for Outbound Mobility, work visa convenience for Inbound Mobility, along with especially strong youth migrant force and youth employment stability for Startup Mobility, Japan claimed the top score for overall Employment Mobility.

Japan also ranked #1 in combined Youth Advantage scores. As mentioned in Section 2.5.4 above, Youth Advantage components mainly look at the advantage of youth over the general population. For example youth literacy vs. general adult population literacy.

In general, youth advantage is usually higher in developing countries given that the younger generation is often more educated and mobile compared with the older generation, whereas in developed regions their differences would not be as big.





Nevertheless, Japan ranked #1 in 3 of the 4 Youth Advantage components: Youth Employment Stability, Youth Migrant Force and Youth Digital Native Advantage. Losing out only on Youth Literacy Advantage (for which Japan was placed last).

From the chart below you can see that while the total inbound migrant force in Japan is smaller than Singapore and Hong Kong, the youth migrant force (the solid color in the middle) indicates that a larger percentage and force is from youth migrants. This illustrates a strong directive to attract young migrants into Japan, even as its policies are not conducive generally to inbound migration. Years of worries for an aging population has refined Japan's inbound migrant strategy focused on bringing in youth to bolster its labour force.

Nevertheless, there are pockets of concerns, including slow adoption of Internet in Education and low English Proficiency rate which directly impacts outbound mobility.

3.1.2.2 Korea & Taiwan

While Japan led the way in terms of developing mobility policies to address an aging population and an aging industry, Korea and Taiwan are following suit with strong conviction.

Based on the YMI scores, Korea is better ahead of the curve building on strong internal systemic developments. Korea is ranked #1 in Tertiary Enrolment Ratio and also has the best score for University Ranking & Reputation (which is a subcomponent for a number of Indicator Compounds), as well as in overall Sustainability Factor. Korea is also relatively strong in all of the Indicator Compounds, with only 2 items: Foreign Exchange (FX) Stability and Mobile Broadband Advantage dropping to the bottom 3 positions, at #18 and #20. The low score in Mobile Broadband Advantage is mainly due to the very high penetration rate of fixed-line broadband in Korea.

Taiwan meanwhile ranked surprisingly lowest in Youth Migrant Force and Youth Employment Stability, indicating a lack of policy directive focused on youth migrant and employment. Recent announcements from Taiwan government on policy initiatives to attract foreign young professionals to create their startups in Taiwan is an indication that

Taiwan is aware of the deficiency, and it should be an area to watch for the coming years to see if the indicators would turn around.

On the other hand, Taiwan is especially strong as an environment conducive to mobile youth, ranking #1 in the Life Experience Index (LifeX), in Gender and Income Equity, as well as in Inbound Education Mobility. LifeX takes apart traditional Quality of Life index components and recombines it with movie, museum, rollercoaster and digital gaming components

that millennials care more about than healthcare and property ownership. With exceptional all-round scores Taiwan beat Hong Kong for the most fun place for mobile youth.

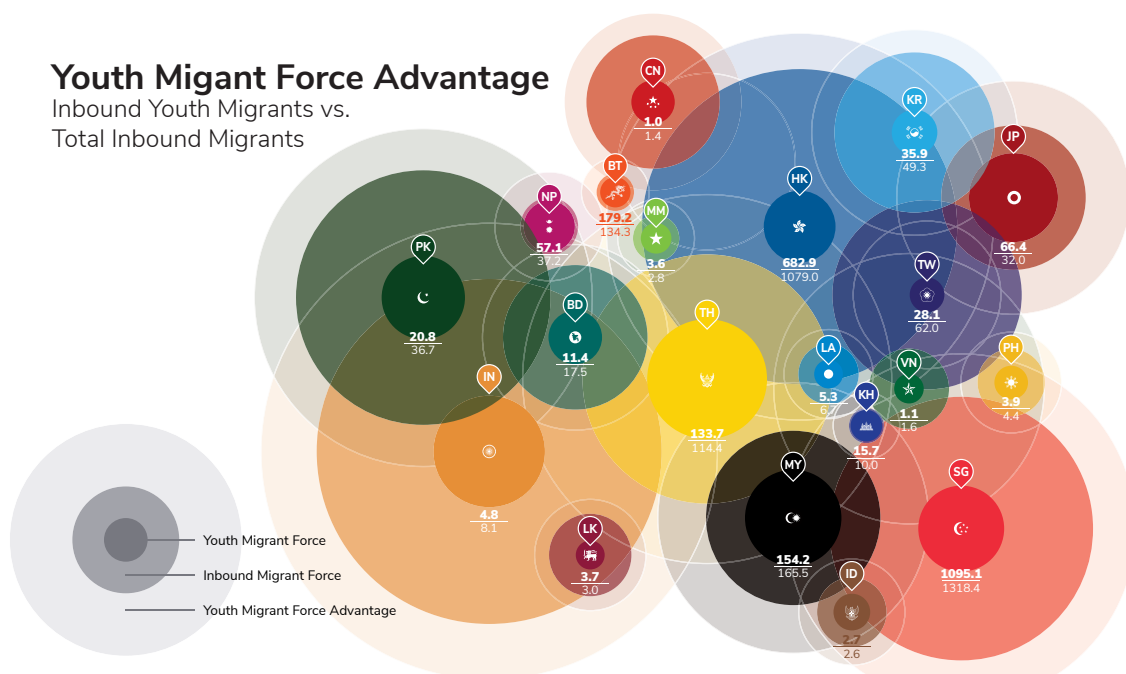
3.2 Tiger Cub Economies

Following the original Asian Tiger Economies, the Tiger Cub Economies are holding up and maintaining their position in the second pelaton, except for letting the heavyweights of China and India as well as surprisingly vibrant Bhutan and Sri Lanka slip in.

3.2.1 Malaysia & Thailand

Leading the Tiger Cubs is Malaysia, which is catching up closely to Taiwan. This is supported by a strong showing in English Proficiency at #2 just behind Singapore (#1) and ahead of the Philippines (#3).

As a hub that is culturally welcoming for Chinese, Muslims and westerners alike, Malaysia ranks #3 in Total Torrent (combined Student, Migrant and Traveller Force), along with a strong youth migrant advantage.



Thailand is the only other Tiger Cub Economy making the Top 10 in the YMI 2018 rankings. Hampered in some ways by political turmoil, but buoyed still by strong import/export trade, Thailand obtained even and well-rounded above average scores to land at #8 overall. Thailand reached #3 in both Outbound and Inbound Shipping-Cost Performance showing good promise for eCommerce trade development. Also, at #4 in Cost-Happiness efficiency and #6 in LifeX indicating a good environment for attracting youth.

3.2.2 Philippines, Vietnam & Indonesia

Rounding out the Tiger Cub Economies, and just missing the Top 10, Philippines, Vietnam and Indonesia occupy the 11th 12th and 14th places on the YMI 2018 overall rankings.

The Philippines returned well-rounded scores across the 3 Core Sectors, capturing a top 3 entry on each: #3 in English Proficiency within the Education sector; #3 in Cost-Happiness performance within the Employment sector; and #1 in Inbound Shipping Cost-Performance within the Entrepreneurship sector. This could suggest that there is interesting potential for eCommerce businesses delivering into the Philippines. See Appendix A.6 for details on methodology.

Furthermore, Philippines ranked #1 in Stakeholder Tolerance and English capacity, indicating that the environment (the business, government and civil society) is very welcoming to expats.

A bright spot for Vietnam is Startup Momentum, reaching #3 trailing only Hong Kong and Singapore and well ahead of China, Korea and Taiwan. Further discussion on this is included below in Section 4.3. This is supported also by a strong Speed/Cost Performance in Internet connectivity at #3 as well, and a stable FX at #4, providing a strong potential environment for startups.

Indonesia achieved a relatively high score in Mobile Internet Advantage, (i.e. the ratio of Mobile broadband subscription over Fixed-line broadband subscriptions) indicating a leapfrog effect to embracing the mobile Internet. Interestingly, this reconciles well with the proliferation of mobile Internet ready SIM cards from Indonesia to be found not only locally but internationally in cities across Asia. However, anecdotal evidence indicate a possibility that the long commutes due to congested traffic in major cities such as Jakarta may have contributed to higher mobile data usage.

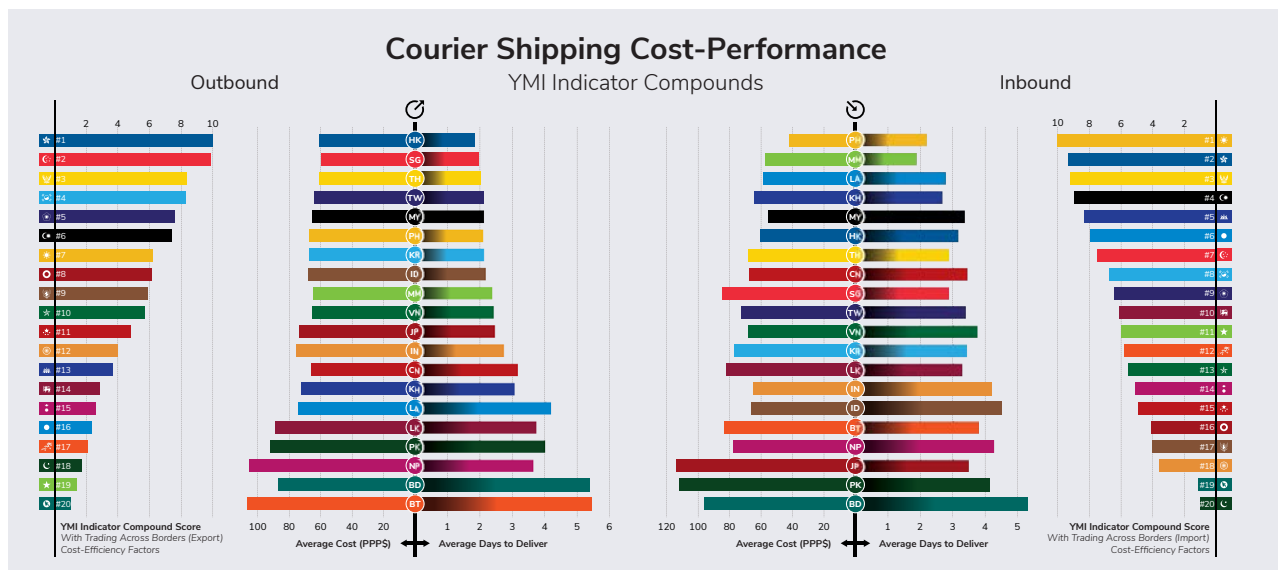
Another strong point for Indonesia reflects its commitment for teacher development and contribution to the Education Workforce reaching #5. The best showing for Indonesia is in Salary Growth Prospect, at #3 just behind China (#1) and India (#2).

3.3 Tiger Range Countries

Tiger Range Countries (TRC) are countries where wild tigers can still be found roaming free. They include 4 out of 5 of the Tiger Cub Economies (Malaysia, Thailand, Vietnam and Indonesia), China and the Sino-Sphere countries (Cambodia, Laos & Myanmar), as well as India along with the Indo-Sphere countries (Bhutan, Nepal, Bangladesh & Pakistan), and Russia.

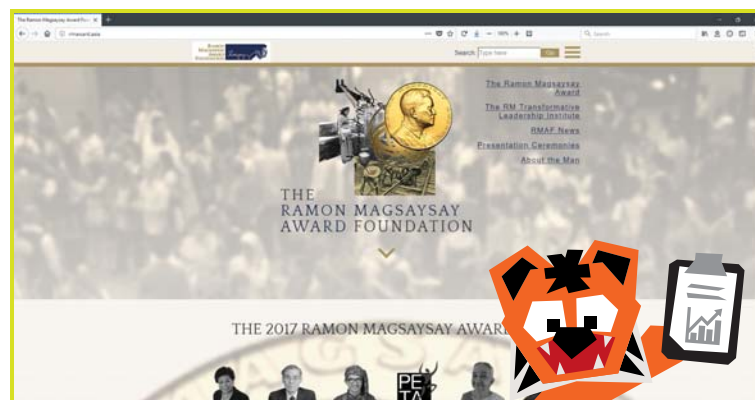
3.3.1 China vs. India

By raw GDP (based on Purchasing Power Parity PPP\$), China and India are at the top, ranked #1 and #2 respectively ahead of Japan (#3) and Korea (#4). However when GDP per capita is considered, China drops to



#8 and India to #14 respectively, which coincidentally corresponds well with their respective YMI ranking at #9 and #15 respectively. For the YMI framework, the indicators are designed to measure the mobility of young people both individually and collectively. Individually, on the mobility felt by the youth, and collectively, the appeal of the locality to attract and retain youth to study, work and start new initiatives there.

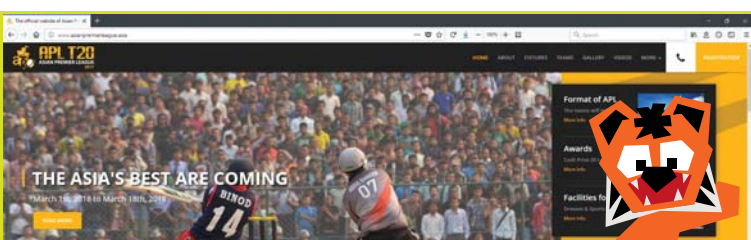
Between China and India, China has the upper hand overall and across all 3 Core Sectors. China is also especially dominant in Entrepreneurship Mobility sweeping India on all 5 Mobility Vector scores, and obtaining a higher rank in 17 out of 20 Indicator Compounds. China is especially strong also in Startup Capital Availability (#2) and Startup Momentum (#4), indicating a vibrant Startup environment overall.



RMAward.asia

The Tiger Cub Economies is among the world's fastest expanding economies with growth rates exceeding 6% in 2017. This success is without doubt contributed by determined leaders around Asia. An excellent example is Lilia de Lima, recipient of the 2017 Ramon Magsaysay Award (RMAward.asia) for work related to the Philippine Economic Zone (PEZA) Authority. **This award is equivalent to Asia's Nobel Prize.** Within her term, she boosted Philippines ecozones 2000% with exports totalling US\$629 billion, increased registered enterprises by 1000%, and raised investment to Php 3 trillion. Congratulations!

One of the few areas in Entrepreneurship Mobility which India ranked significantly higher is in STEP (Social, Technical, Economic and Political) Freedom at #8 where China is at placed at #18.



AsianPremierLeague.asia

What was once a colonial leisure sport to be played in the elite clubs, **Cricket is now said to be the second most popular sport in Asia with over two billion followers around the world.** When India's national side plays a big cricket game, an estimated 400 million Indians watch on television. It is a sport that is played by millions in Asia but not all grass root level players have the required space, a good turf pitch, professional equipment to play with and be recognized at the international level, at least not until the Asian Premier League T20 Championship. The 2017 inaugural edition of the tournament for budding talents featured 19 matches with the Nepal Storms winning the championship by 27 runs. You can re-watch the highlights at www.asianpremierleague.asia.

India has a stronger showing in Education Mobility, bettering China in 3 out of 5 Mobility Vectors: Outbound and Inbound Mobility as well as in Internet Factor, however overall ranking for Education Mobility reached only #11 versus China at #8. India is especially strong in Internet in education at 2nd place only after Singapore (#1) and ahead of Hong Kong (#3), where China is at #10. This is likely contributed by the fact that India is also stronger in English Proficiency, at 6th place, with China at 16th.

For Employment Mobility, India did slightly better than China only in Inbound Mobility. Both India and China are particularly strong in Salary Growth Potential with China taking the #1 spot and India a close #2. This bolstered China to #2 in Employment Startup Mobility, with India at #7.

Both China and India are relatively weak in Sustainability, with overall rankings at #11 and #16 respectively. Neither China nor India were particularly strong in Youth Advantage aggregate, with India at #9 slightly ahead of China #10, behind Thailand at #8 and ahead of Sri Lanka #11.

3.3.2 Bhutan

As the last remaining Himalayan Buddhist kingdom, Bhutan is a remote sanctuary far from the traces of modern cosmopolitans. Yet some of the indicators produce off the chart scores in youth mobility, lifting Bhutan into a surprising 7th place in the YMI 2018 rankings.

With a total population of just under 800,000, Bhutan attracts over 50,000 inbound migrants, representing 6.5% of its population, just behind Malaysia (#3) with 8.2% and ahead of Thailand (#5) with 5.7%. Out of which, almost 40% are youth, propelling Bhutan to #4 in both Inbound Migrant Force and Youth Migrant Force. Bhutan's Outbound Migrant Force is also reasonably strong, coming in within top 10 at #9, combining for a total Migrant Force ranking at #5 just behind Malaysia (#4) and above Taiwan (#6).

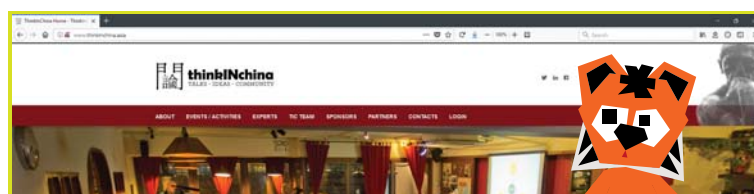
The majority of the inbound migrants for Bhutan come from India (87.5%), followed at a distance by China (1.8%) and Nepal (1.4%), data also shows interesting pockets of inbound migrants from the United States (0.27%) and Japan (0.25%). Perhaps even more amazingly, 8.7% of the total of around 41,000 college age youth in Bhutan goes to study abroad. Whether or not this is because of the lack of University capacity in Bhutan, it nevertheless represents the highest across Asia, outdoing Hong Kong at second place with 7.9% outbound and Singapore at third with 7.2%. This means that even with a small total number of students, the Outbound Student Mobility Force felt within Bhutan is strong, placing it at #3.

Even though Bhutan is notoriously difficult to reach, both because of its remoteness and because of the visa policies, which shows in its ranking for Student Visa Convenience at #20, and Work Visa Convenience at #18, still, after including visa requirements as an indicator combined with total travellers inbound and outbound, Bhutan manages to be ranked within the Top 10 at #9 for combined Travellers Torrent, with Inbound Travellers at #9 and Outbound Travellers at #11 respectively.

With accelerating growth for both Export and Import, Bhutan is surprisingly strong in trade forces. With imports being almost 60% of GDP, Bhutan ranks 9th in Import Force. This is combined with a robust export component running at 34% of GDP and accelerating at 8.7%, putting it in 10th place for Export Force, to put Bhutan at 9th overall in Import-Export Torrent. While dropping significantly in the Global Happiness Index (GHI) ranking to 97 globally, when considering Cost of Living together, Bhutan rises to #2 in the YMI score for Cost-Happiness Performance, which better reveals its reputation in being the happiest place to live on earth. In view of the significant net gain in migrants (Inbound vs. Outbound), perhaps there remains some truth in the attractiveness of Bhutan as a happy efficient place.

All in all, the movement measures (students, migrants, travellers, as well as goods and services) for Bhutan is remarkably forceful considering the small population and economy, which means that individuals within Bhutan can feel the mobility. Aside from restrictive visa requirements, which in some ways add to its mystical appeal, some of the policy components seem reasonably strong, such as reaching #5 for Grants-Tax motivation. But that is combined with a mixture of very slow Startup Momentum at #20.

Looking at the development of Bhutan, this deliberately formed young democracy moderated by a constitutional monarchy of families of enlightened kings, seems to be showing signs of vibrancy, yet the future seems far from being certain towards prosperity and mobility.



thinkINchina.asia

In March 2017, Chinese President Xi Jinping remarked that China will increase attractiveness and reduce red tape around residence permits to **drive in overseas talents** by allowing foreign students to stay in China to work after study. thinkINchina.asia provides a platform for foreign academics to network, discuss and help each other by exchanging ideas and information in China.

3.3.3 Crouching Tigers

The remainder of the Tiger Range Countries (TRCs) while ranking at the low end, have 3 areas of common strength: Mobile Internet Advantage, Youth Literacy Advantage and Outbound Wage Motivation. For Mobile Internet Advantage, it shows that these localities (except Bangladesh) generally have skipped fixed broadband and catapulted into mobile broadband. This is possibly due to more difficult infrastructure deployment for fixed networks than mobile and may allow these “crouching tigers” to leapfrog other more advanced economies in mobile utilization, however it remains to be seen if this could spark social and economic opportunities.

Youth Literacy Advantage, measures the literacy rate of youth over and above the general adult literacy rate. In more developed regions, this ratio is usually small because both youth and general literacy rates are high. For developing countries, the older population may not have had as much opportunity to get an education, therefore the younger workforce has an advantage to be more mobile. Besides Myanmar and Cambodia, which reports a relatively high general literacy rate of over 90% and almost 80% respectively, other crouching tigers: Nepal, Bangladesh, Pakistan and Laos occupied ranks #2, #3, #4 and #7 respectively.

Outbound Wage Motivation measures the local average wages in comparison of other places. The lower the local wage the higher the motivation to seek for work opportunities abroad.

3.3.3.1 Indo-Sphere: Nepal, Bangladesh & Pakistan

Besides the 3 common strengths mentioned above, among the Indo-Sphere countries of Nepal (#13), Bangladesh (#16) and Pakistan (#20), each locality managed to score in the top 5 in a few other Indicator Compounds.

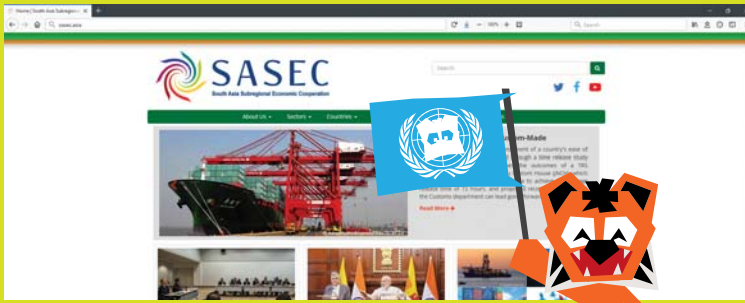
Nepal and Bangladesh ranked #4 and #5 respectively for Salary Growth Prospect, opening opportunities for upwards mobility. This may also be indicative of the presence of multinational companies (MNCs) providing higher paid jobs locally. At overall #13 in the YMI rankings, Nepal scored high in Youth Migrant Force, placed #3, and Cost-Happiness Performance, placed #5. Along with high ranking in Salary Growth Prospect and Outbound Wage Motivation, these combined to propel Nepal to overall #5 in combined Employment Base Mobility (Outbound, Inbound and Startup) Vectors.

Bangladesh reached #5 in English Proficiency, just behind Hong Kong (#4) and ahead of India (#6). Bangladesh also ranked high in University Starting Salary Advantage, which measures the distance between minimum wage and the starting salary for university graduates. Even though starting salaries were relatively low, what drove Bangladesh up to #4 in University Starting Salary Advantage is that its minimum wage is set particularly low, at just between BDT1,500 and BDT5,300 (equals to US\$50 and US\$170 after taking into account Purchasing Power Parity: PPP\$). This is the lowest among the 20 localities included in the YMI 2018 study.

Bangladesh shows reasonably good performance for Inbound student and work visa convenience, ranked at #5 for both measures. Bangladesh and Pakistan are also showing strong overseas income, ranked at #5 and #3 respectively in the category, indicating strong motivation for outbound employment. At #3, Pakistan is placed just behind Singapore and Hong Kong and ahead of Japan (#4) for Overseas Income Motiva-

tion, which measures the ratio of income from nationals overseas against gross domestic income.

Since 2013, Pakistan has adopted a strong Rupee policy, making the currency a near-fixed exchange rate one. This is a direct result of the high score in Foreign Exchange (FX) Stability placing Pakistan at #3 just behind Hong Kong (#1) and Laos (#2), both of which are pegged with the US dollar. Another strong area for Pakistan is their high score for Internet in Education, placing them at #4, just behind Hong Kong.



SASEC.asia

SASEC.asia, the South Asia Subregional Economic Cooperation is a collaborative effort of Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, and Sri Lanka. They aim to promote **the region's shared vision of prosperity, economy opportunities and increase quality of life** for those in the subregion. The partnership will leverage its natural resource, trade and commerce and industry linkages to develop the region's value chains.

3.3.3.2 Sino-Sphere: Cambodia, Laos & Myanmar

The three Sino-Sphere countries Myanmar (#17), Laos (#19), and Cambodia (#18) occupied the top 3 spots respectively in Mobile Internet Advantage (Myanmar #1, Laos #2 and Cambodia #3). As discussed, while this may indicate interesting potential, it remains to be seen if the local mobile utilization can be harnessed.

Besides Mobile Internet Advantage, Cambodia also reached top 5 scores in another 5 Indicator Compounds out of 60. Outstandingly, Cambodia reached #3 in Social Tolerance, which combines the scores from 3 global indices: Social Hostility Index (Social Respect Score), Gay Happiness Index, and the Global Creativity Index (Tolerance Score). This may have played a part in another strong score in Youth Migrant force, at second place after only Japan, showing good ability to attract young inbound migrants to supplement its workforce. This is augmented with #5 in Outbound Migrant Force, for an overall ranking at #7 in Total Migrant Force (combined Outbound and Inbound Migrant force).

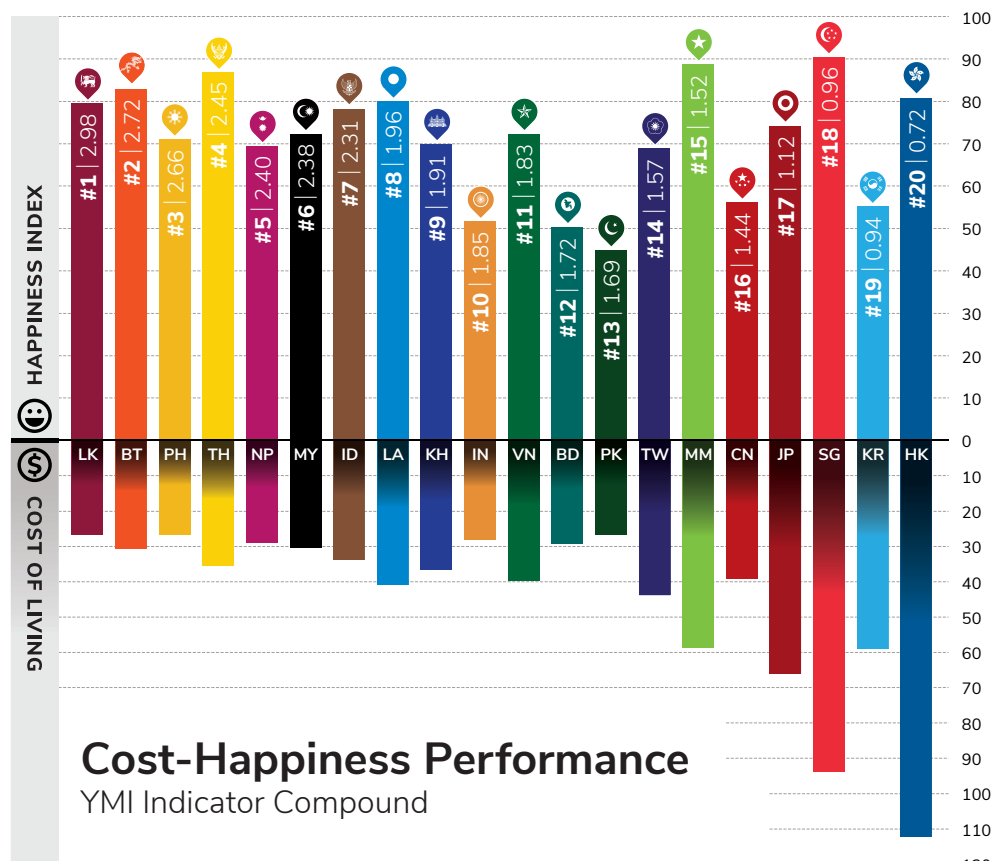
Laos meanwhile topped the score in Outbound Migrant Force with over 20% of its population overseas, outstripping second place Hong Kong's 14%. This propelled Laos to #3 in combined Outbound and Inbound Migrant Force, even though Inbound Migrant Force for Laos is only ranked at 14.

Cambodia is particularly strong in Import and Export forces, reaching #4 in Import (just behind Vietnam #3 and ahead of Bhutan #5 and Malaysia #6) and #5 in Export (ahead of Taiwan #6 and just behind Thailand #4) respectively. This Indicator Compound focuses on the ratio of Import and Export against GDP, with an emphasis on ICT goods and services.

4. Youth Mobility Spotlights 2018

Besides the Torrent concept explained in Section 2 and discussed in other sections above, the YMI framework is also reconstructing the calculations for cost of living and quality of life in view of youth and mobility in Asia. In line with the Torrent concept, the YMI framework also introduces a concept of Startup Momentum.

4.1 Sri Lanka: #1 Cost-Happiness Performance



Sri Lanka is the most happy-efficient locality in Asia. While Sri Lanka is only placed 7th on happiness alone (based on the World Happiness Report: WHR), when combined with Cost of Living and moderated with Consumer Price Index (CPI), Sri Lanka comes out on top in Cost-Happi-

ness Performance, ahead of 2nd place Philippines and 3rd place Bhutan. This provides perhaps a better confirmation of Bhutan's directive for Gross National Happiness. In fact, interestingly, the World Happiness Report (WHR 2017) places Bhutan only at #97, with Sri Lanka at #120 and Philippines at #72. Localities where people are known to culturally be

more relaxed and happy. In fact, Bhutan is often cited as the world's happiest country. Meanwhile the WHR places Singapore on top as Asia's happiest locality at 26th globally, followed by Thailand at 32nd, with Taiwan 33rd, Malaysia 42nd, Japan 51st and Hong Kong at 71st.

In considering Cost-Happiness Performance however, the YMI framework first dissects the WHR to remove the GDP and life expectancy components (which have been included by other components in the YMI), leaving the core happiness measures of "Explained by: Social support", "Explained by: Freedom to make life choices", "Explained by: Generosity", and "Explained by: Perceptions of corruption." This score is then divided by the Cost of Living (taken at PPP\$) times CPI (which indicates inflation).

The Cost of Living index is also modified from the more western centric measures (included in the basic template at Numbeo.com), by adjusting the relative quantities in the basket of goods. For example, including more rice and less bread, more vegetables and less meat, more eat out meals and less wine in the

matrix. The Cost of Living index used does include rental costs, but adjusted towards youth (without children), and utilizes Purchasing Power Parity (PPP\$) as a comparative measure across the localities.

The result places Sri Lanka (#1), Philippines (#2) and Bhutan (#3) at the top and Hong Kong (#20), Korea (#19) and Singapore (#18) at the bottom. Which seems to better match popular impressions than the raw scores from the World Happiness Report (WHR). This in many ways reflects the aim of the YMI framework to consider the coupled effect of the happiness index (the higher the better), and the cost of living (the lower the better), which combines to form popular impressions of the actual happiness achieved in terms of relative cost-efficiency. In some ways, the high score in Cost-Happiness Performance helped lift Sri Lanka into the last spot for the top 10 in the YMI 2018 rankings.

4.2 Taiwan: #1 Life Experience (LifeX)

For young people today, it is no longer just about "quality of life", but about life experience. Millennials seek travel, work and study experience and mobility in multiple dimensions, and value fluid and challenging job and startup experiences that produce social impact and meaning. In Asia, Taiwan is at the top in providing an environment for

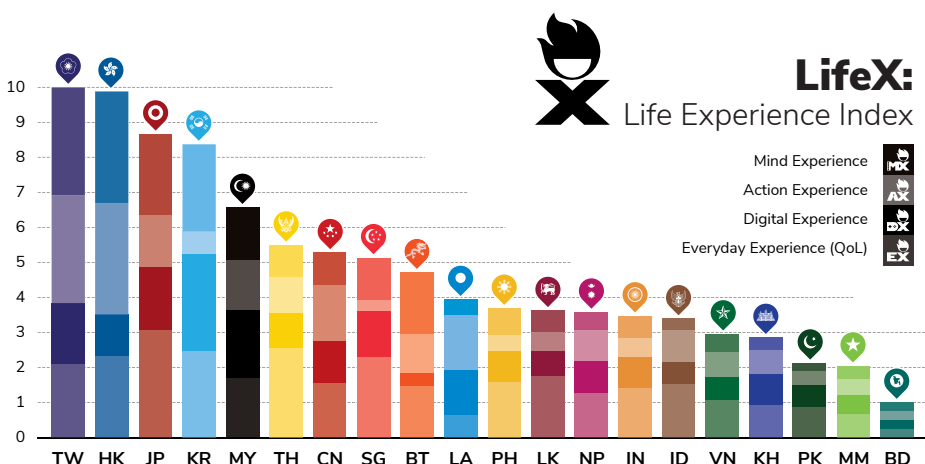


KingCoconut.asia

Natural coconut water is nature's Gatorade! In 2017, **6 of the 7 top coconut producing countries in the world is in Asia**. Coconut water contains five key electrolytes making it the ultimate rehydration sports drink from nature. The King variety of coconut water from Sri Lanka has natural electrolytes close to that of blood plasma. So drinking KingCoconut.asia may just be a better alternative to traditional sport drinks.

the best life experience, ahead of Hong Kong (#2), Japan (#3) and Korea (#4). Interestingly Singapore, which is otherwise dominant in the YMI scores is only in 8th place, behind Thailand (#6) and China (#7). This perhaps reconciles with Singapore's reputation as a boring city.

The LifeX Indicators Compound is inspired in part by Florida's "Rise of the Creative Class" where he described the urban lifestyle conducive to attracting the young, educated creative class. However, it is built with multi-dimensional mobility in mind to avoid the (as explained in Section 2.4) inequities and problems which Florida himself corrected later in "The New Urban Crisis". LifeX includes 4 components, building on the more traditional "quality of life" measures as a foundation and then adding introspective, extrospective and digital experience indicators for a more comprehensive framework to measure the "coolness" and "fun" factors relevant for intellectually inclined and mobility activated youth:



Mind Experience: indicators intended to measure introspective experiences, including cinema, museum and alcohol consumption, i.e. activities geared towards stimulating the mind introspectively.

Action Experience: indicators measuring extrospective experiences, such as travel, wildlife reserves and rollercoasters, i.e. outdoors and active lifestyles.

Digital Experience: the digital experience rounds out mind-space and physical space experience with cyberspace experience, including indicators for restaurant user reviews postings, online gaming and esports performance.

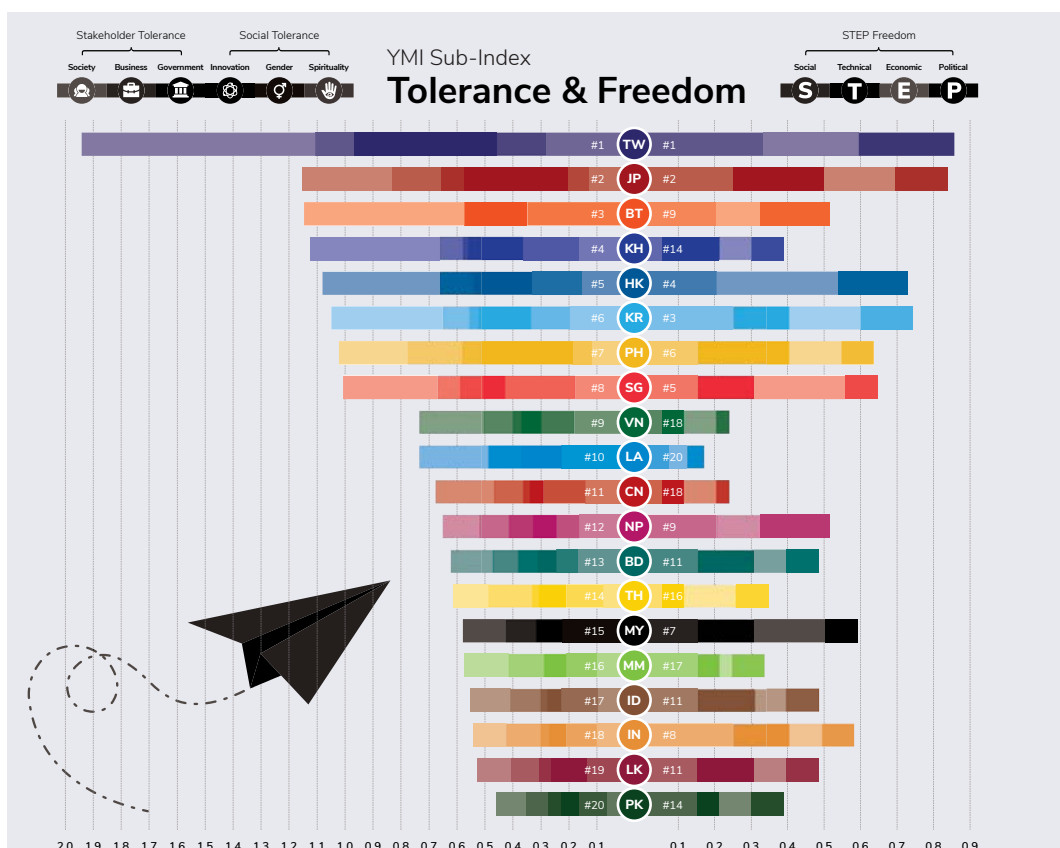
Everyday Experience: foundation based on quality of life indices, including Safety Index, Health Care Index, Traffic Commute Time Index and Pollution Index (while removing Property Price Index and Purchasing Power index which duplicates with cost of living already incorporated in the Cost-Happiness Performance).

Amazingly, while Taiwan took the #1 spot for overall LifeX, it only managed to capture the top score for one component: Museum per Capita. Taiwan has the most number of museums per person, at just over 1.5 museums per 1000 persons, well over 2nd place Japan, just over 1.0 museums per 1000 persons. Nevertheless, Taiwan scored well-rounded results in all



categories and capturing 2nd place for both Mind Experience composite and Action Experience composite.

Within the Action Experience composite, Taiwan came 3rd in both Wildlife Reserves per Capita and Rollercoasters per Capita. For Wildlife Reserves, Taiwanese enjoy about 2.6 km² of land reserves and 12.8 km² marine reserves for every 10,000 persons, coming in 3rd after Bhutan and Laos, two places best known for their untouched natural reserves. Another interesting observation in this component is that while Hong Kong often prides itself as a city with one of the highest percentage of reserved lands at 41.84%, when considering the area enjoyable per capita, it falls to just 600m² per 10,000 persons. When further factoring in the immense amount of inbound travellers into the city, there is no wonder why Hong Kong finds its country parks as crowded as its city during holidays.



Taiwan also came in 3rd for rollercoasters per capita, with almost 1 rollercoaster (0.94) for every 1 million people, this is after Japan (#1) which boasts 1.72 rollercoasters and Hong Kong (#2) with 1.09, and well above Korea (#4) with just 0.80 rollercoasters for every million people.

In the Digital Experience composite, Taiwan ranked 4th in both online gaming expenditure per Internet user and eSports prowess, which measures the number of prize winning eSports players, and their prize winning, over the number of Internet users. The Taiwanese spend a total of \$107 (PPP\$) each year in online games per Internet user, at #4 behind the Koreans (#1) who spend \$122, as well as the Japanese (#2) and Singaporeans (#3) who spend \$112 per year.

Taiwan is ranked 3rd in pro-players in eSports (defined as players collecting prize monies in the year), producing 10.2 pro-players for every 1 million Internet users, behind only Korea (#1) at 18.4 pro-players per million and Singapore (#2) at 17.7 pro-players per million, and ahead of Hong Kong (#4) which produced 9.0 pro-players per million Internet users. For average prize money collected however, Taiwan is placed 6th at \$9,302 (PPP\$) per pro-player behind Korea (#5) at \$19,927 (PPP\$) and ahead of Singapore (#7) at \$8,857 (PPP\$). In average prize money collected, the top 4 localities are surprisingly: Pakistan (#1) who took home a whopping average of \$1.15 Million (PPP\$) per pro-player followed at a distance by Malaysia (#2) at \$55,489 (PPP\$) per pro-player, China (#3) \$36,360 (PPP\$) per pro-player and Philippines (#4) \$28,012

(PPP\$) per pro-player. Combining the scores in pro-players produced per Internet user and prize money won per pro-player, Taiwan comes in at #4, behind Korea (#1), Malaysia (#2) and Singapore (#3).

Even though Taiwan's overall YMI score appears to be falling below the GDP per Capita comparison line (See Section 2.2.1), its infrastructure of museums, cinemas and eSports are holding up for an environment that could attract mobile youth seeking life experience. With the conscious effort from the government to improve inbound and outbound mobility through visa policies, grants, etc. in recognition that it is falling behind, Taiwan is definitely a vibrant economy to watch. Furthermore, Taiwan achieved top scores in 3 important areas: Social Tolerance, Stakeholder Tolerance and STEP Freedom for its ability to attract inbound talent and youth. This suggests that Taiwan is the most liberal and accepting social environment across Asia. Perhaps there it is no coincidence that it is also the first place in Asia to recognize same sex marriage in 2017.

4.3 Vietnam: #3 Startup Momentum

Vietnam is experiencing a tremendous boom in startups, but appear to be tied down by mobility barriers in policies and other logistics infrastructure. By raw numbers, Vietnam is seeing 110,010 new companies registered per year and growing at a blazing 24.9%. In comparison, Hong Kong produces 167,280 new companies with a growing rate of

RRRAO!!~~ My name is Ajitora, I am a tiger born from the Internet and am an Ambassador for the Tx2 program which began in 2010, through the collaborative effort of the 13 tiger range countries committed to doubling the number of wild tigers by 2022, the next year of the tiger.



5. Ajitora Perspectives: Sustainability & Internet

We are fierce, dynamic and unique, but we tigers are critically endangered with just 3890 remaining in the wild. Asia is our home and without passports and visas, we traverse freely across the Tiger Range Countries to whichever benefits our appetite and safety the most. We are increasingly competing with the rising human population for land and fending off poachers who kill us for our skin and body parts. Today, illegal wildlife trade has moved online, making its purchase as convenient as eCommerce. My mission is to find ways to stop illegal wildlife trade online without compromising digital freedom and mobility!

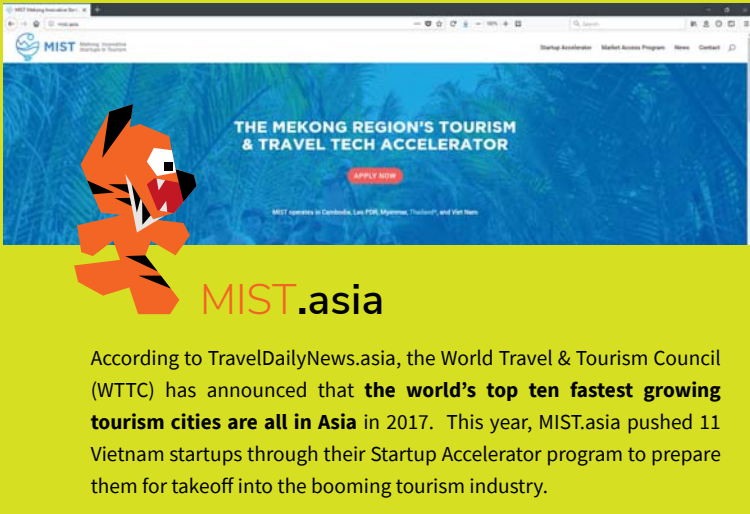
I believe tigers belong in the future; not the past! Like young people who seek mobility to roam around for study and work, we need consistent policies to protect tigers and promote sustainability for both the ecology and the economy in Asia. It is as important to me as it is for humankind to invest in their youth to shape a sustainable future. Hence I am making sure that Sustainability Factor is of high importance in the YMI!

5.1 Roaring Forward: Sustainability Factors

100,000 tigers roamed across Asia less than a century ago, but today, tigers are extinct in all the top 5 localities by YMI ranking: Singapore, Hong Kong, Japan, Korea and Taiwan (granted tigers were extinct in Japan and Taiwan since prehistoric times). Hopefully, this is not a benchmark for the others! In fact, these regions have come to understand that economic growth and sustainability are not mutually exclusive.

It was 1922 that the last tiger was seen and hunted in South Korea but Koreans strongly associate themselves and their culture with this Asian big cat and the tiger remains as Korea's national animal. Korea dominat-





31.3% while Singapore sees 38,306 new company registrations at 9.5% growth. When factoring in density of startups (i.e. number of new registered companies per 1,000 persons), and combining the mass and velocity of growth, Vietnam comes in at 3rd place in Startup Momentum, only after Hong Kong (#1) and Singapore (#2) and ahead of China (#4).

Export and import forces are also outstanding in Vietnam. Exports and imports by value are both at close to 90% of GDP (Exports 89.7%, Imports 88.1%) accompanied with stable growth. Together, Vietnam's total Torrent in Export and Import check in at 3rd place, only behind Hong Kong (#1) and Singapore (#2). The above is especially extraordinary when considering that Vietnam is placed only at #13 in Startup

ed the overall YMI ranking in Sustainability Factor followed by Singapore, Japan and Hong Kong. Leading Education Sustainability is South Korea showing a strong level of well-being but drops to #2 in Employment Sustainability and #4 in Entrepreneurship Sustainability.

Locality	Sustainability Scores	Tigers Last Seen
KR (Korea)	<ul style="list-style-type: none"> Overall (Sustainability) 9.83 #1 Education 7.72 #1 Employment 9.15 #2 Entrepreneurship 8.97 #4 	1922: last tiger was seen and hunted on Mt. Daedeuk in Gyeongju, South Korea's North Gyeongsang Province https://bigcatrescue.org/tigers-of-korea-100-years-ago/
SG (Singapore)	<ul style="list-style-type: none"> Overall (Sustainability) 9.65 #2 Education 7.41 #2 Employment 8.97 #3 Entrepreneurship 9.09 #3 	1930: last tiger was shot and killed by hunters in Choa Chu Kang https://motherhip.sg/2016/12/tigers-once-roamed-singapore-making-meals-out-of-plantation-coolies/
JP (Japan)	<ul style="list-style-type: none"> Overall (Sustainability) 9.63 #3 Education 7.22 #3 Employment 8.95 #4 Entrepreneurship 9.34 #1 	Prehistoric: Fossil remains show that tigers did roam Japan in the Late Pleistocene and Early Holocene period. https://en.wikipedia.org/wiki/Tiger
HK (Hong Kong)	<ul style="list-style-type: none"> Overall (Sustainability) 9.54 #4 Education 6.89 #4 Employment 9.18 #1 Entrepreneurship 9.33 #2 	1965: senior highschool girl reported seeing a tiger on Tai Mo Shan, sighting never confirmed. http://www.scmp.com/magazines/post-magazine/article/1757424/

5.1.1 Human Development Indices & Tx2 Progress

South Koreans have equal access to healthcare and are offered the choice of western or traditional oriental treatments. Healthy eating and regular exercise secured their population with one of the lowest obesity and lowest blood pressure rates in the world! With the strong support of government and individual welfare, according to studies, South Korean women are projected to have the longest life expectancy exceeding 90 years old by 2030. Surging past the current top 3 in Asia according to the Health (Life Expectancy) Index: Hong Kong (#1), Japan (#2) and Taiwan (#3), which is part of the Human Development Index (HDI) which has been incorporated into the YMI framework under Sustainability Factor. For more information see Section 2.2.3 above.

Capital Availability and #11 in Port Logistics Performance. Two other bright spots for Vietnam, which may have been contributory to the strong showing in Startup Momentum and Import-Export Forces are: Connectivity Speed-Cost Performance and Foreign Exchange (FX) Stability.

Based on statistics from the Global IT Readiness (GITR) report, the Vietnamese are enjoying the cheapest fixed broadband Internet tariffs, at just \$2.6 (PPP\$) per month (ranking #1 globally), even though at average speeds of just 20.7 kb/s (ranking #89 globally and #10 among the 20 YMI 2018 localities). Combining cost and speed, with considerations for constructive competition in Internet and telephony, Vietnam comes in at #3 overall for Connectivity Speed-Cost Performance, again, behind only Hong Kong (#1) and Singapore (#2), ahead of Taiwan (#4). With active directive to maintain currency stability through a managed float or currency basket peg, Vietnam has achieved a stable currency for the previous year, coming in at #4 for FX Stability. Otherwise, Vietnam is ranked below average for visa convenience, grants-tax incentives, shipping costs, youth advantage aspects, etc., and especially low in Youth Employment Stability (#19) and STEP (Social, Technical, Economical & Political) Freedom (#18) resulting in an overall rank at #12.

The YMI scores appear to be confirming anecdotal perspectives that perhaps more open policies that are conducive to mobility may allow the Vietnamese startup scene to really bloom, which in turn would push the economy further forward.

Tigers are extinct in South Korea, but as Koreans gain momentum on their well-being, fortunately, tigers are also making some progress in our recovery because people are more aware and are consistently collaborating efforts to increase tiger prosperity. An example of this can be seen in India which currently has the biggest tiger population. In 2006, there were only 1,411 tigers left in India, but we have roared back and it is estimated that in 2016, there are around 2,500 roaming in India (<http://www.india.com/travel/articles/world-tiger-day-2016-how-many-tigers-are-left-in-india/>).

Although the numbers show no direct correlation between tiger population and Sustainability Factor in the 13 tiger range countries, the three connected areas of Laos, Myanmar and Cambodia received a low ranking, placing #17, #18 and #19 respectively in Sustainability Factor. They coincidentally also have very few or no inhabitant tigers left in their region.

5.1.2 Freedom & Equity as Sustainability Factors

The YMI Sustainability factor is composed of various indices, including ones focused on sustainable development, and the Human Development Index (HDI) sub-indices as mentioned. In addition to these, Youth Literacy component is included for the Education sector, while an equity component and a freedom component is included for Employment and Entrepreneurship respectively.

Tigers roam free in the wild. Like tigers, being mobile and free is important for young people. Looking at the YMI STEP Freedom scores (which combines 4 indices measuring Social, Technical, Economical and Political freedoms respectively), Taiwan topped the list. Part of being

free, is also being free from prejudices and systemic inequities. The YMI framework included two indices: Gender Equity (Gender Inequality Index – GII) and Income Equity (Gini Coefficient), which is combined as an indicator of systemic inequities and part of the Sustainability Factors. Interestingly, Taiwan also topped both the charts for GII and Gini scores, as well as for Social Tolerance and Stakeholder Tolerance!

This is especially amazing considering that the numbers show no correlation between the GII, Gini and Freedom index scores. This prompted my interest to explore when tigers last roamed free in Taiwan. Without much luck looking for information in cyberspace, I emailed Forestry Bureau in Taiwan and got a definitive response from them stating: “As we know, no tiger roamed Taiwan for a long time. Wild tiger may exist here, but its 25,000 years ago.”

5.2 Cyber-Tigers: Internet Factors

Tigers live amongst a diversity of animals, plants and organisms and how they interact with each other and their environment is vital to the progressive balance within their ecosystems. This is comparable to the Internet, which is an interconnected network relying on various services, applications, standards and protocols that make it work.

The Internet provides a fundamental platform for digital economy, therefore it is a critical enabler of sustainable development. Through the

Internet and the concept of brain sharing, youth can easily gain mobility through education, employment, leisure activities, and information across borders.

Between the Asian Tiger Economies and Japan, the 5 regions ranked the same in Internet Factor and the overall YMI placement. Singapore led the group with a top score on Internet Factor with Hong Kong and Japan trailing behind by a small margin. Unlike Hong Kong where tigers strayed upon, tigers were native to Singapore! Though it was way back in 1930 when the last tiger was shot and killed by hunters in Choa Chu Kang. One important score for Singapore is that it topped the list for using information and communication technology to improve the quality of public services. This confirms the Singaporean government’s progressive approach towards technology and the Internet.

Singapore recognized its challenges with a dense aging urban population, limited size and natural resources. Therefore they have turned to technology as an enabler to overcome their physical constraints. They put priorities on infrastructure and technology (e.g. sensors & IOT, data analytics) to strengthen areas like mobility, homes and environment, healthcare and ageing. They digitally transformed the public sector to deliver better services to its citizens. As of August 2017, the Singapore government boasts more than 300 mobile services that allow its people to obtain services using mobile phones. Additionally, they pride on sharing open source platforms, data, and APIs so its citizens can create useful applications for their own community.

Appendix A.6: YMI Methodology Framework

Detailed calculations and methodology is included in a separate print (document). Appendix B.7: Data & Other References is also included in the Methodology Framework print (document). Appendix C.8: YMI Scorecards is included separately for the 20 localities included for YMI 2018:

Bangladesh (BD), Bhutan (BT), China (CN), Hong Kong (HK), Indonesia (ID), India (IN), Japan (JP), Cambodia (KH), Korea (KR), Laos (LA), Sri Lanka (LK), Myanmar (MM), Malaysia (MY), Nepal (NP), Philippines (PH), Pakistan (PK), Singapore (SG), Thailand (TH), Taiwan (TW), and Vietnam (VN).

Base Mobility Vectors						Prime Mobility Vectors			
Outbound Mobility [OT]		Inbound Mobility [IN]		Startup Mobility [UP]		Sustainability Factor [SD]		Internet Factor [IT]	
Education [EDU]									
Outbound Student Force [EDU.OT.01]		Inbound Student Force [EDU.IN.05]		Tertiary Enrolment Ratio [EDU.UP.09]		Sustainable Development Indices [EDU.SD.13]		Under 15 Access [EDU.IT.17]	
Cost / Quality (Local Tuition) [EDU.OT.02]		Quality / Cost (Int'l Tuition) [EDU.IN.06]		Gov. Funding & Efficiency [EDU.UP.10]		Well-being Emphasis [EDU.SD.14]		Youth Digital Native Advantage [EDU.IT.18]	
English Proficiency [EDU.OT.03]		Social Tolerance [EDU.IN.07]		Education Workforce [EDU.UP.11]		Youth Literacy Advantage [EDU.SD.15]		Mobile Broadband Advantage [EDU.IT.19]	
School System Internationalization [EDU.OT.04]		Student Visa Convenience [EDU.OT.08]		Higher Education Priority [EDU.UP.12]		Education Index (HDI) [EDU.SD.16]		Internet in Education (MOOC, etc.) [EDU.IT.20]	
Employment [EMP]									
Outbound Migrant Force [EMP.OT.01]		Inbound Migrant Force [EMP.IN.05]		Youth Migrant Force Advantage [EMP.UP.09]		Sustainable Development Indices [EMP.SD.13]		IP & ASN Utilization [EMP.IT.17]	
Outbound Wage Motivation [EMP.OT.02]		Cost-Happiness Performance [EMP.IN.06]		University Starting Salary Adv. [EMP.UP.10]		Society & Environment Emphasis [EMP.SD.14]		IPv6 Advantage [EMP.IT.18]	
Overseas Income Advantage [EMP.OT.03]		Stakeholder Tolerance & English [EMP.IN.07]		Salary Growth Prospect [EMP.UP.11]		Gender & Income Equity [EMP.SD.15]		Domain-Host Utilization [EMP.IT.19]	
Qualifications Reputation [EMP.OT.04]		Work Visa Convenience [EMP.IN.08]		Youth Employment Stability [EMP.UP.12]		GNI Index (HDI) [EMP.SD.16]		Secure Internet Servers [EMP.IT.20]	
Entrepreneurship [ENT]									
Outbound Travellers & Visa [ENT.OT.01]		Inbound Travellers & Visa [ENT.IN.05]		LifeX: Life Experience Index [ENT.UP.09]		Sustainable Development Indices [ENT.SD.13]		Speed / Cost Performance [ENT.IT.17]	
Outbound Shipping Cost-Performance [ENT.OT.02]		Inbound Shipping Cost-Performance [ENT.IN.06]		Startup Capital Availability [ENT.UP.10]		Industry Emphasis [ENT.SD.14]		Internet Presence Advantage [ENT.IT.18]	
Export Force [ENT.OT.03]		Import Force [ENT.IN.07]		Port Logistics Performance [ENT.UP.11]		STEP Freedom Indices [ENT.SD.15]		Top-Level-Domain (TLD) Utilization [ENT.IT.19]	
Foreign Exchange (FX) Stability [ENT.OT.04]		Grants-Tax Motivation [ENT.IN.08]		Startup Momentum [ENT.UP.12]		Health (Live Expectation) Index (HDI) [ENT.SD.16]		Public Digital Services [ENT.IT.20]	

Internet Population

World Internet Population

±Internet Presence Advantage



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YOUTH MOBILITY INDEX 2018



23

3 Core Sectors

- Education
- Employment
- Entrepreneurship

5 Mobility Vectors

- Outbound Mobility
- Inbound Mobility
- Startup Mobility
- Sustainability Factor
- Internet Factor

15 Components

Base Vectors

4 Dimensions (PEEP)

- People
- Economics
- Environment
- Policy & Systems

3 Measures

- Movement
- Motivation
- Mobilization

Prime Vectors

Sustainability (SEED)

- Sustainability Indices
- Emphases (Sustainability Indices)
- Equity, Literacy & Freedom Indices
- Development Indices (Human Development Index: HDI)
- Education Index
- GNI Index
- Health Index
- People
- Planet
- Profit
- Youth Literacy
- Gender & Income
- STEP Freedom

Internet Factors

- Education
- Employment
- Entrepreneurship
- Outbound Mobility
- Inbound Mobility
- Startup Mobility
- Sustainability Factor
- Internet Factor

3 Core Sectors
× 5 Mobility Vectors
= 15 Components
× 4 Dimensions Each
= 60 Indicator Compounds

Each Indicator Compound
Combines 2 or more Socio-Economic Indicators (e.g. GDP, Outbound/Inbound Migrants, Internet Users, etc.). A total of 216 Indicators are used in the YMI 2018 calculations.

Overall YMI Score:

$$\sqrt[3]{\text{Education} \times \text{Employment} \times \text{Entrepreneurship}}$$

Sector Scores:

$$\text{Sector Score} = \sqrt[3]{(\text{Outbound Mobility} + \text{Inbound Mobility} + \text{Startup Mobility}) \times \text{Sustainability Factor} \times \text{Internet Factor}}$$

Component Scores:

$$\text{Component Score} = \frac{\text{Education} + \text{Employment} + \text{Entrepreneurship} + \text{Outbound Mobility} + \text{Inbound Mobility} + \text{Startup Mobility} + \text{Sustainability Factor} + \text{Internet Factor}}{4}$$

Indicator Compound Normalization:

$$\text{Indicator Compound} = \frac{\text{Indicator} - \text{min}}{\text{max} - \text{min}} \times 9 + 1$$

4 Sub Indices

Total Torrent (Mobility Force)

- Outbound + Inbound Student Force
- Outbound + Inbound Migrant Force
- Export + Import Force

Youth Advantage (vs. Population)

- Youth Literacy Advantage
- Youth Digital Native Advantage
- Youth Migrant Force Advantage
- Youth Employment Stability

LifeX: Life Experience Index

- Mind Experience: Cinema, Museum & Drinking Culture
- Action Experience: Travel, Wildlife & Rollercoasters
- Digital Experience: Reviews, Esports & Online Games
- Everyday Experience: Safety, Health, Commute & Pollution

Openness: Tolerance & Freedom

- Social Tolerance: Spiritual Gender & Innovation
- Stakeholder Tolerance: Gov., Bus. & Society
- STEP Freedom: Social, Technical, Economics & Political

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9. Acknowledgements:

The Youth Mobility Index (YMI.Asia) report would not have been possible without the dedicated work from the YMI Team at DotAsia and the generous support from our partners and collaborators.

DotAsia YMI Team: Edmon Chung (Chief Researcher) | June Lau (Data Researcher) | Beatrice Chan (Communications) | Kelvin Truong (Webmaster) | Clement Chan (Social Media) | Leona Chen (Market Direction) | Jennifer Chung (Editor) | Rebecca Chan (Data Auditor) | Elvis Lam (Data Tools) | Pavan Budhrani, Yannis Li, Tracy Liu, Aaron S.P. & Karry Yu (Analysts) | Sam Kong & Clement Leong (Youth Engagement) | Sophie Joo, Johnson Tsang & Jian Zhang (Overseas Correspondence) | Interns: Kapo Tsang, Wing Hei Ip, Doris Lee

Asia Pacific Network Information Centre (APNIC)

Special thanks to Che-Hoo Cheng and the research and statistics teams at APNIC. Che-Hoo served as the Interim CEO of the DotAsia initiative from 2003 to 2006 and subsequently served on the DotAsia Board of Directors from its incorporation in 2006 to 2012. APNIC is the Regional Internet Registry administering IP addresses for Asia Pacific. IP address and AS number allocation statistics were obtained from APNIC website (<https://stats.apnic.net>), while some NREN (National Research and Education Network) data were obtained from the APNIC team directly. The YMI team looks forward to closer collaboration in the future to refine the YMI framework with better indicator data and analytics methodology.

AMGlobal Consulting

The YMI project would not have begun if not for the generous support from Andrew Mack, the principal at AMGlobal Consulting, a specialized Washington, DC-based consulting firm that helps companies do more and better business in Emerging Markets. Andrew helped lead the review of the priorities and achievements in the first 10 years of DotAsia, which helped focus the team around youth development for social impact through the Internet. The YMI and DotAsia team is especially grateful for the insightful advice and looks forward to continuing and expanding collaborations into the future.

Digital Asia Hub

The Digital Asia Hub (<https://www.digitalasia-hub.org>) is an independent, non-profit Internet and society research think tank based in Hong Kong. Internet factors along with social mobility are important components of the YMI framework. The YMI team is collaborating with Digital Asia Hub in reaching out to researchers around Asia to engage in further refining and utilizing the YMI data, in particular in alignment with the Digital Asia Hub's mission to advance an open and collaborative platform for research, knowledge sharing and capacity building, and to strengthen effective multi-stakeholder discourse, with both local and regional activities, contributing to and serving as a node of a global network of academic organizations.

Digital + Direct Marketing Association Asia (DDMA) and CurrentAsia

The concept of persona marketing championed by David Ketchum helped DotAsia zero-in on its efforts to support young people who are starting new initiatives on the Internet that is not only creating commercial value but also generating positive social impact through social innovation. This provided the genesis for the development of the YMI initiative. David is the principal at DDMA and CurrentAsia.

Internet Corporation for Assigned Names and Numbers (ICANN)

ICANN's mission is to help ensure a stable, secure and unified global Internet. To reach another person on the Internet, you need to type an address – a name or a number – into your computer or other device. The YMI framework depends on critical data about Internet resource utilization to assess the level of development and mobility of the Internet infrastructure within different localities. YMI 2018 utilized data taken from ICANN's Open Data Initiative (<https://www.icann.org/resources/pages/odi-pilot-2017-06-27-en>). As the Open Data Initiative develops, the YMI team looks forward to working closely with the ICANN team to refine and improve the data sets used as indicators for the YMI framework into the future.

Hong Kong Polytechnic University – Department of Applied Social Sciences

In collaboration with Prof. Chitatan Chan, the YMI 2018 report will be launched alongside an online survey targeting youth to seek their self-reported observation on how the experience they have with their mobility felt locally, and compared with the YMI findings, especially on the aspects of personal development, openness and social tolerance. The YMI team will look to deepen the collaboration with Prof. Chan's team at the Department of Applied Social Sciences of Polytechnic University in Hong Kong for more in-depth studies related to the YMI framework.

UNESCO Internet Universality Indicators

The UNESCO Internet Universality (IU) Indicators project aims to enrich stakeholders' capacity to assess the development of the Internet, broaden international consensus and foster online democracy and human rights. The YMI and DotAsia team has been working with the IU team, including on regional consultation in the development of the IU Indicators at the Asia Pacific Regional Internet Governance Forum (APRIGF). Furthermore, the YMI team looks forward to incorporating the UNESCO Internet Universality ROAM framework into the YMI methodology, once the IU design is complete, and also to work with UNESCO to explore further local case studies relevant to YMI with emphasis on digital mobility.

Western Sydney University, Institute for Culture and Society

Sincere thanks to Dr Shanthi Robertson for the invaluable advice she has given to the YMI work. The YMI team is actively exploring possibilities to take the data from the YMI framework to further qualitative research on youth mobility in Asia jointly with Dr. Robertson at the Institute for Culture and Society of Western Sydney University. The Institute researches transformations in culture and society in the context of contemporary global change. It champions collaborative engaged research in the humanities and social sciences for a globalizing digital age.