Digital Planet:

Readying for the Rise of the e-Consumer

Executive Summary

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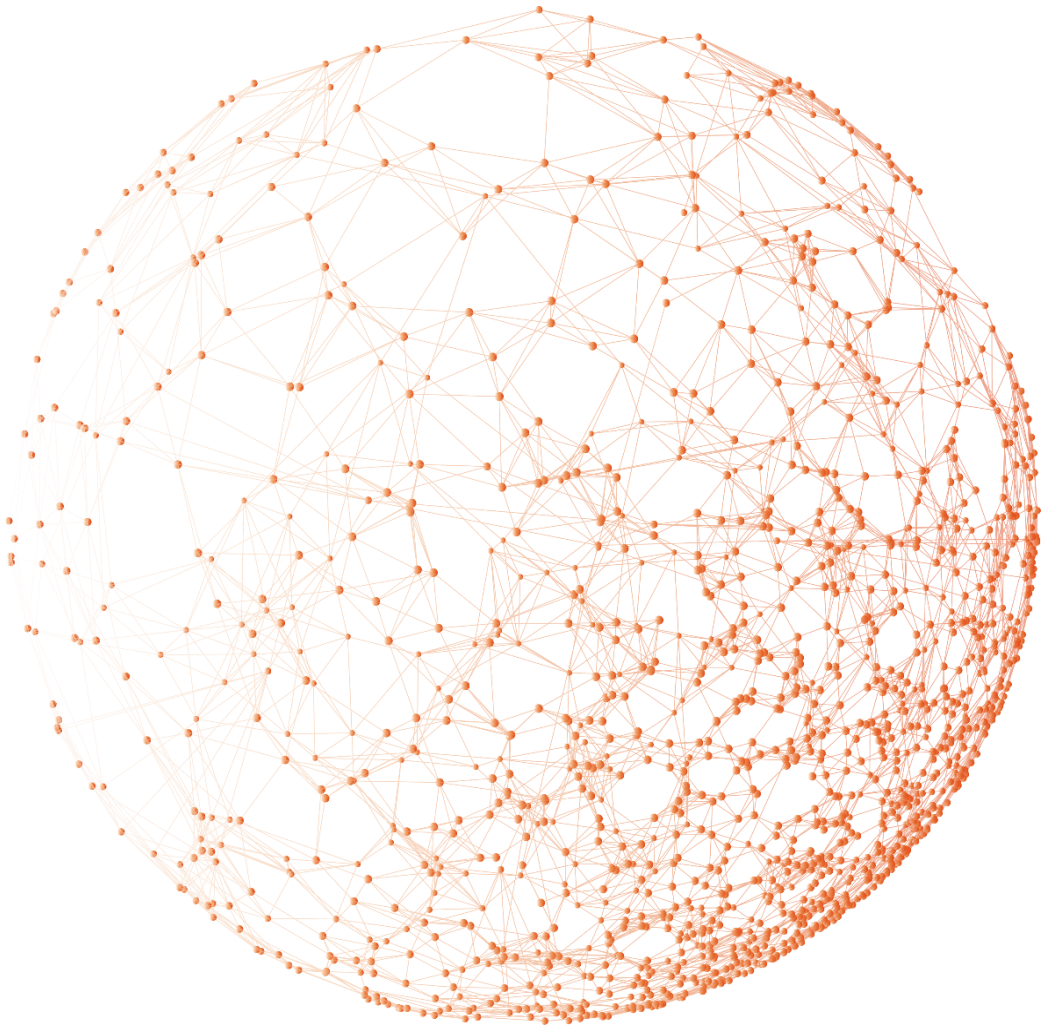

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The Internet has come of age. Twenty-one years since the marketplace first took notice, the World Wide Web today is at the heart of the global economy, channeling interactions for nearly 40% of the world's population.[i] It took the Internet 12 years to gather its first billion users, and a third of that time to amass its third billion.[ii] Meanwhile, the emerging world is leapfrogging towards mobile phones, opening more avenues to Internet adoption. Broadband subscriptions on mobile phones, now 34% of global mobile phone subscriptions, have tripled since 2008.[iii] The next billion Internet users, logging on in an era of near universal mobile connectivity, offer promise of greater economic growth and increased business opportunities.

The next billion will be different. The current three billion started off primarily as Internet users, surfing and emailing, before they became consumers of digital marketplaces. The next billion, already mobile customers used to interacting and transacting – downloading ringtones, content etc., – in a mobile ecosystem on their feature phones, will start off not as mere users but rather as e-consumers: internet enabled mobile devices will vastly expand their access to downloadable content; buying and selling goods and services through a mobile phone is a logical next step. This has profound implications for the future of global commerce and digital marketplaces. Where the next billion e-consumers will come from, who they are, what they are like, and how they will shape the digital marketplaces of the future are questions of great importance to businesses and investors globally. The answers depend on how governments, businesses, and consumers co-evolve to face the challenges and opportunities of the digital future. The hype surrounding the IPO of Alibaba, growing investor interest in the potential of the Indian electronic shopping market, including local players such as Flipkart and international giants, such as Amazon, together with the fast growth of e-commerce companies across Asia, Latin America and sub-Saharan Africa – several enabled by the Rocket Internet platform -- are clear signals of this growing phenomenon.

Understanding the systemic forces that drive digital evolution will help in strategic decision-making among businesses, investors and policy-makers in steering innovation and allocating resources. To measure the digital trajectories of countries and to provide actionable, data-informed insights for businesses, investors, and policymakers, The Fletcher School, created the **Digital Evolution Index** (DEI), with support from MasterCard World and DataCash. The DEI analyzes the key underlying drivers and barriers that govern a country's evolution into a digital economy: Demand, Supply, Institutional Environment, and Innovation. A longitudinal analysis of these four drivers during the years 2008 to 2013 enables us to make sense of the evolving global digital landscape, reveal patterns and provide insights into both current consumers and those to come. The index and the corresponding analyses of the patterns reveal many broad conclusions – each of them has powerful managerial, investment and policy implications.

Insights, Patterns, and Surprises

Each emerging e-commerce market will chart its own path…

- Our research shows that there is very little about the digital past and present of the West that instructs us about the digital present and future of the Rest.
- Momentum and direction over time are determined primarily by the interplay between demand and supply, institutional environments, and innovation within the country. While there isn't one grand pattern, to the extent that the four drivers are correlated, the evolution follows a linear path; when not correlated, the trajectory is non linear, and more often a random walk. This is due to a system of underlying drivers, some that move quickly (e.g. the spread of mobile communications and consumer applications) while others that move very slowly (e.g. policy and regulations, infrastructure improvements) which can keep certain states of evolution locked-in for arbitrary periods and then unlocked due to a combination of factors that create enough leverage for change.

- Catchy acronyms and "clubs" (BRICS, Fragile Five) that lump together disparate emerging economies - while ignoring their underlying drivers - confuse rather than clarify our understanding of digital trajectories.

… but neighborhoods matter.

- Countries in close geographic proximity seem to display similar trajectories, as seen among the Nordics, Central and Southern European states, and members of the ASEAN.
- Shared cultural norms; a commonality in social, political, and economic environments; and demonstration effects could all play a role in the neighborhood effect, giving regional trade a boost.
- Regional economic grouping and related harmonization of institutions and supply chains have had a positive impact on individual country scores over time, as seen in Poland, Estonia, and Malaysia.

In some highly innovative emerging economies, hybrid solutions are fostering vibrant digital marketplaces …

- Innovative hybrids combining two or more elements of the digital commerce value chain - access, marketplaces, transaction, and delivery - are springing up to bridge infrastructure gaps.
- Cash on delivery where electronic payments are thin; tablet-toting vendors where access is patchy; and delivery personnel doubling up as sales persons to cross-sell or upsell are some of the strategies making household names of marketplaces such as Lamoda in Russia, Flipkart in India, Kaymu in Africa, and Lazada in South East Asia.

… despite the strong adherence to cash.

- A combination of fledgling infrastructure, low payment card penetration, cultural preferences, and distrust of electronic payments have entrenched cash into emerging digital commerce ecosystems.
- Cash on delivery for e-commerce transactions is the preferred and growing payment method in some of the fastest-moving economies in our index.

Attractive demographics and underinvestment represent untapped potential...

- Some of the countries that are ready to break out and on the cusp are also some of the world's most populous nations, including China, India, Mexico, Indonesia, Brazil, and The Philippines. Since all our components that measure demand are calculated on a per capita basis to allow for comparability, the growing per capita demand score multiplied by the size of populations reveals immense demand potential.
- The Philippines, Chile, Colombia, Thailand, and Indonesia are among the fastest-evolving economies, and yet have received relatively little investment in digital commerce ecosystems to date.

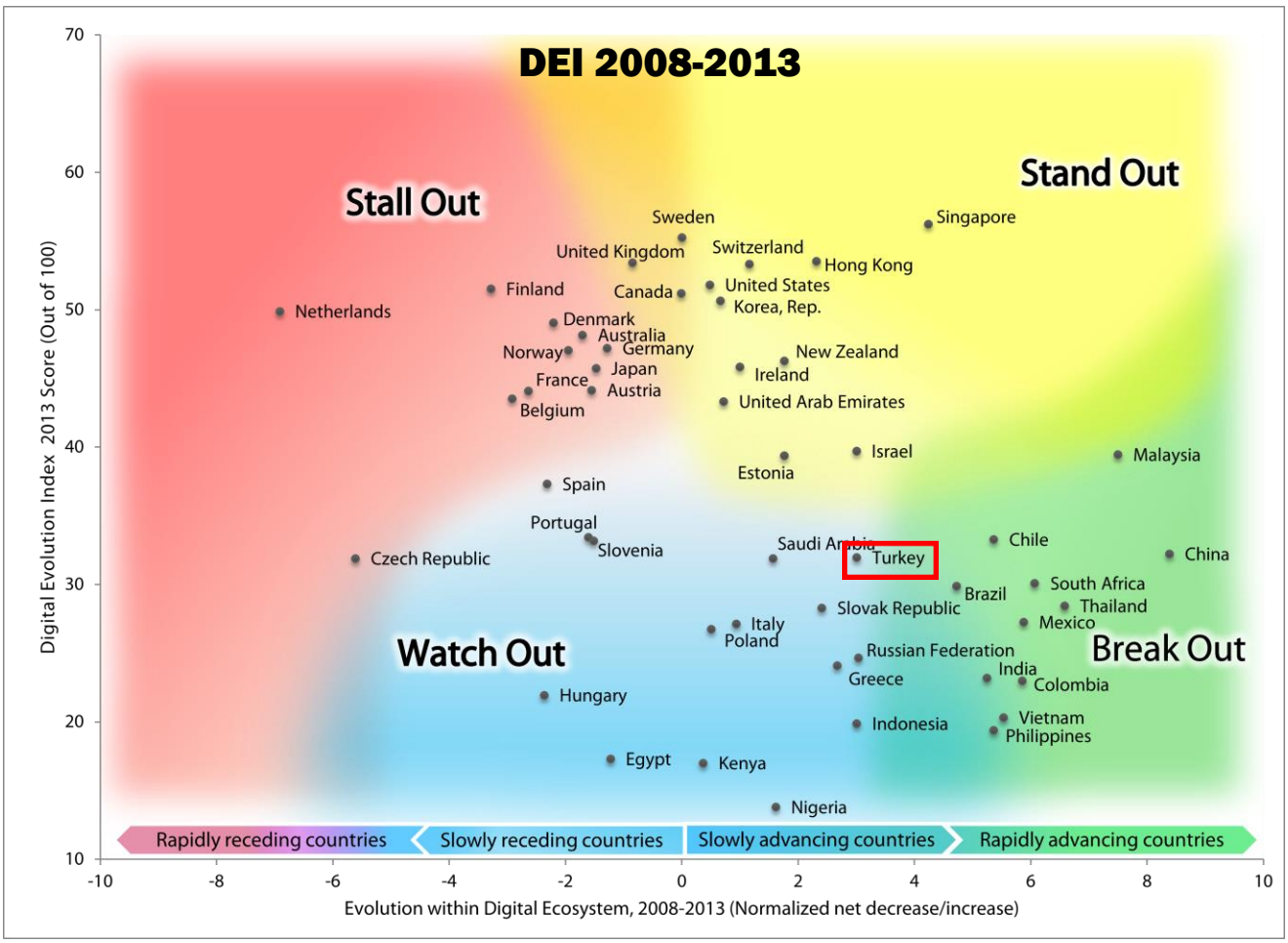
...which can be helped or hindered by embedded institutions.

- Policy and regulatory environments that promote rather than restrict the digital economy are a competitive advantage: Chile, Malaysia, and Estonia are reaping the benefits of their forward-looking governments.
- By contrast, the lack of effective institutions can stymie the growth potential of e-commerce in some of the biggest emerging economies, including China, India, and Brazil.

Evolving Digital Planet: Key Patterns

Whether and how the other 60% will participate in the internet economy will depend on the evolving ecosystems around them. Using DEI data, the Trajectory Chart below illustrates how countries' digital ecosystems have been faring. We arrayed countries' current (2013) status on the vertical axis against the five-year rate of change of each country, positive or negative, on the horizontal axis. To classify the performance of countries, we divided the trajectory chart into four distinct evolution zones, each of which is described next.

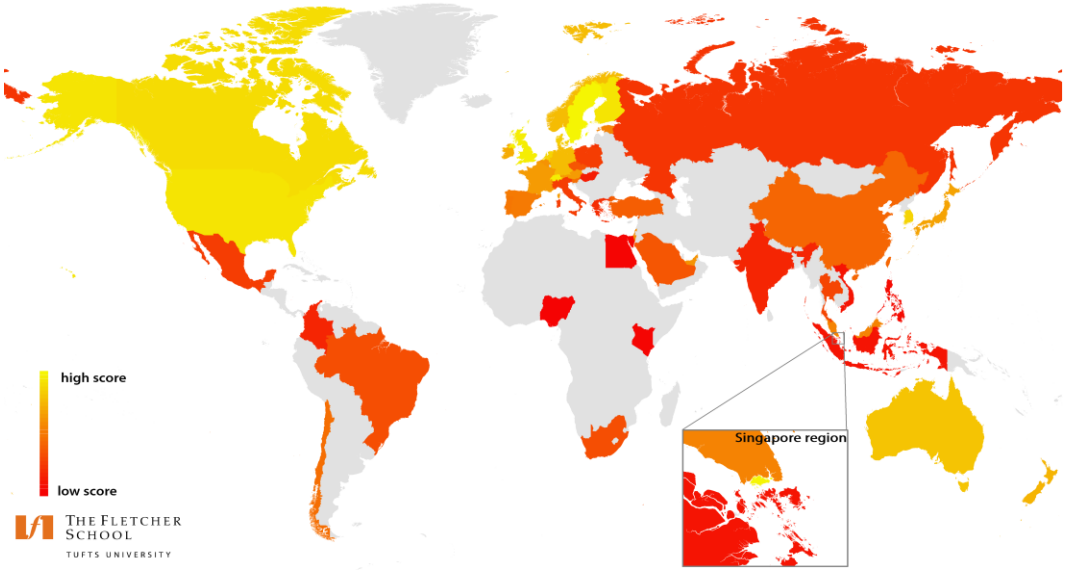
Trajectory Chart



Country Rankings at a Glance (2013)

The 50 countries we chose for our analysis span a wide range between developed and emerging economies, and together represent almost three quarters of the global population (5.2 billion). These are where most of the world's current internet users live and where the next billion are likely to come from.

2013 Digital Evolution Index Total Score



Full Rankings - 2013

Countries ranked on 2013 total scores across four drivers: Demand, Supply, Institutional Environment, and Innovation

Rank	Country Name	Score
1	Singapore	56.21
2	Sweden	55.23
3	Hong Kong	53.52
4	United Kingdom	53.41
5	Switzerland	53.32
6	United States	51.79
7	Finland	51.49
8	Canada	51.17
9	South Korea	50.63
10	Netherlands	49.86
11	Denmark	49.03
12	Australia	48.14
13	Germany	47.18
14	Norway	47.04
15	New Zealand	46.26
16	Ireland	45.81
17	Japan	45.71
18	Austria	44.13
19	France	44.07
20	Belgium	43.49
21	United Arab Emirates	43.29
22	Israel	39.69
23	Malaysia	39.43
24	Estonia	39.36
25	Spain	37.29
26	Portugal	33.41
27	Chile	33.25
28	Slovenia	33.17
29	China	32.20
30	Turkey	31.95
31	Czech Republic	31.87
32	Saudi Arabia	31.87
33	South Africa	30.06
34	Brazil	29.86
35	Thailand	28.42
36	Slovak Republic	28.27
37	Mexico	27.23
38	Italy	27.12
39	Poland	26.73
40	Russia	24.65
41	Greece	24.08
42	India	23.17
43	Colombia	22.97
44	Hungary	21.92
45	Vietnam	20.29
46	Indonesia	19.85
47	Philippines	19.38
48	Egypt	17.28
49	Kenya	16.98
50	Nigeria	13.77

Change in Scores since 2008

Countries ranked by change in DEI scores from 2008 to 2013. China has seen the highest increase in score, while the Netherlands have shown the largest decrease.

Rank	Country Name	Change	
1	China	8.39	Rapidly advancing countries
2	Malaysia	7.50	
3	Thailand	6.59	
4	South Africa	6.07	
5	Mexico	5.88	
6	Colombia	5.85	
7	Vietnam	5.54	
8	Chile	5.37	
9	Philippines	5.37	
10	Brazil	5.34	
11	India	5.25	
12	Singapore	4.24	Slowly advancing countries
13	Russia	3.04	
14	Turkey	3.01	
15	Indonesia	3.01	
16	Israel	3.01	
17	Greece	2.67	
18	Slovak Republic	2.41	
19	Hong Kong	2.32	
20	Estonia	1.76	
21	New Zealand	1.76	
22	Nigeria	1.62	
23	Saudi Arabia	1.57	
24	Switzerland	1.16	
25	Ireland	1.00	
26	Italy	0.94	Slowly advancing
27	UAE	0.72	
28	South Korea	0.67	
29	Poland	0.51	
30	United States	0.48	
31	Kenya	0.37	
32	Sweden	0.00	
33	Canada	-0.01	
34	United Kingdom	-0.85	
35	Egypt	-1.22	
36	Germany	-1.28	
37	Japan	-1.47	
38	Slovenia	-1.52	
39	Austria	-1.55	
40	Portugal	-1.60	
41	Australia	-1.71	
42	Norway	-1.95	
43	Denmark	-2.20	
44	Spain	-2.32	
45	Hungary	-2.36	
46	France	-2.64	
47	Belgium	-2.92	
48	Finland	-3.28	
49	Czech Republic	-5.61	Rapidly
50	Netherlands	-6.91	

Slowly receding countries

Emerging Implications

The Digital Evolution Index is a comparative framework built to enable pattern recognition into how internet technology is transforming marketplaces – a developing area of the global economy whose effects are unfolding daily. Entrepreneurs, businesses, and investors would do well to act on the opportunities embedded in the patterns revealed by the DEI. Governments and policymakers keen to see their countries reap economic gains from digital evolution ought to benchmark against the best performers on the Index to create enabling environments for their ecosystems to thrive.

Businesses will always seek out opportunities to fill gaps between supply and demand: they have the highest leverage and payoffs in the short run here. It is their ability to innovate and navigate institutional constraints – areas where their leverage is lower, and the payoffs distant – that will determine success in the long run. Our research reveals the following broad patterns – each with very specific implications for businesses across the e-commerce value chain, investors and policy-makers:

- The biggest opportunities in Watch Out and Break Out markets in the near to medium term lie in improving supply conditions. Digital ecosystems would benefit immensely from improvements in logistics and transportation infrastructure, deeper financial inclusion, and better conditions of internet access. Collaboration between proactive policymakers and the private sector could help fast track improvements in access, transactions, and fulfillment.

- Break Out markets and those on the cusp such as South Africa, Mexico, Vietnam and Indonesia registered the highest gains in demand during 2008 - 2013 in spite of significant limitations in supply conditions. Eliminating supply bottlenecks would enable them to realize the full potential of advantageous demographic trends and robust consumer demand within these markets.

- The large and attractive demographics of China and India will continue to draw investments into marketplaces. Intensifying competition among internet retailers, while beneficial to the consumer, would place increased pressure on already strained infrastructure. Hybrid solutions and short term fixes, designed by innovative entrepreneurs to overcome gaps in supply, risk permanence as these businesses become successful. There is a need for forward-looking policy making in both these markets to ensure that infrastructure conditions can keep up with demand.

- The increasingly integrated ASEAN economies, with their similar trajectories and 600+ million consumers, are also compelling candidates for digital commerce investments. Yet despite their rapid evolution, the Break Out countries of Indonesia, Thailand, the Philippines have received relatively little private equity investment to date. ASEAN's integration and tariff harmonization will generate opportunities for the creation of regional marketplaces and delivery networks.

- The Stall Out economies of Europe, including the Netherlands, Finland, Belgium and France, could jumpstart their recovery by taking advantage of increased regional integration, selling goods across national borders to the 500+ million consumers in the wider EU.

- Stand Out markets offer a disproportionately high ROI in e-commerce. While their domestic markets are highly competitive, they are also poised to transform into regional hubs for e-commerce. They can do so by taking advantage of strong supply infrastructure and supportive institutional environments to absorb demand from their neighborhoods. Entrepôts such as Singapore, Hong Kong, and Dubai stand to gain the most by integrating more deeply with their neighbors.

Each of these overarching findings have clear action implications for managers in retail, technology and intermediary businesses, as well as in logistics and in the relevant infrastructure and supply chain sectors. There are also implications for investors, particularly in private equity and venture capital as they make choices on which e-commerce players in which markets they should invest in. Finally, there are implications for public-private partnerships and coordination and broad public policy action. Each of these four categories of implications will be detailed in the article.

For more information on this study and related issues, please contact the authors:
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[i] "Number of Internet Users (2014) - Internet Live Stats" < http://www.internetlivestats.com/internet-users/>
[ii] ibid
[iii] ITU Statistics – Global ICT developments, 2001-2014.