Digital Transformation Monitor

New York City: The World's Fastest Growing Startup Technology Center

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While New York was lagging behind the Silicon Valley in California and Boston regarding innovation and entrepreneurship before 2010, its recent performances are remarkable. A study conducted by the Center for an Urban Future concluded that the technology industry is growing faster in New York City than anywhere else in America. Today, NYC appears as a leading hub for the development of new technology companies and hundreds of startups are mushrooming every year in the city thanks to the strong involvement of all the public and private stakeholders.

Problem statement

A renewed focus on innovation and technology

The rapid development of digital innovations in New York over the past few years led to the recent eclipse of the Boston area as the most dynamic ecosystem for tech companies in the countries. This emphasis on digital transformation and innovation was notably enabled by the presence of powerful private investors such as venture capital firms and business angels, the growing number of incubators as well as accelerators and support from city leaders.

Manhattan, the heart of NYC economic activity

The digital wave has particularly hit Manhattan borough and startups are now highly concentrated on this area. This high concentration notably results from the unequal repartition of infrastructures and most of the broadband connection in Manhattan compared to other NYC boroughs.

An attractive and globally renowned workplace

The high-tech industry’s young and creative workforce is attracted by New York because of its dynamic and prestigious image, its diversity, its large pool of successful entrepreneurs and talents and its modern infrastructures. Academic institutions and creative industries also draw people to NYC, providing new ideas and talents for the city.

NYC’s digital story: public leadership for economic diversification

NYC’s recent growth is partly attributed to the massive efforts of the administration of former Mayor Michael R. Bloomberg to diversify the city’s economy and reduce its dependence on Wall Street as an economic engine. The objective followed by the Bloomberg and now the De Blasio Administration is clear: to establish New York as the world’s top-ranked Digital City, based on indices in Internet access, Open Government, citizen engagement and industry growth.² The figure below provides an account of these four pillars driving NYC digital strategy since 2012.

Mayor’s Office of Technology

Under the leadership of the City’s Chief Technology Officer, the Mayor’s Office of Technology and Innovation (MOTI) leads the City of New York’s “Smart City, Equitable City” strategy for technology and innovation.

As part of this effort, MOTI works to improve the lives of all New Yorkers by:

- Establishing principles and strategic frameworks to guide connected device and Internet of Things (IoT) implementation;
- Serving as the coordinating entity for new technology and IoT deployments across all City agencies;
- Collaborating with academia and the private sector on innovative pilot projects, and
- Partnering with municipal governments and organizations around the world to share best practices and leverage on the impact of technological advancements.

An investment wave contrasting with the country’s slowdown

Private investors are another pillar supporting New York’s massive startup growth. The number of venture capital deals in NYC has been rising since the last five years while it is slowing everywhere across the nation. Deals do not only concern mature startups but are also providing funding for risky and early stage ones.
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Realised benefits and new opportunities

Since the Bloomberg Administration, the local government considers digital technology as the future of the economy and therefore makes a great deal of effort to diversify NYC’s economy from finance and fashion to high-tech. The local government also strives to develop a comprehensive digital transformation strategy in collaboration with global stakeholders.

New York’s Digital City Strategy: engaging New Yorkers for an inclusive digital ecosystem

Digital technology is revolutionizing the way cities communicate and engage with its citizens for more accountability and transparency. This is why New York adopted in 2011 the Road Map for the Digital City, a holistic digital strategy launched by former Mayor Michael R. Bloomberg and Chief Digital Officer Rachel Stern to enable NYC to become the world’s leading digital city.

A focus on transparency and on direct communication

The main objectives of the digital strategy are to enhance the local government’s outreach, engagement and communication with New Yorkers, to increase New Yorker’s access to digital technologies and especially to the Internet. The underlying idea is that New York is already a global digital leader and that in order to reach the next level it needs to become the home of the next digital revolution. The mayor has therefore partnered with several social media companies such as Facebook, Twitter and Snapchat in order to foster the direct interaction with New Yorkers.

User-friendly websites and platforms

The City is committed to increasing the government’s transparency and to improving the lives of New Yorkers as well as their digital access. This commitment is notably enabled through the developments of platforms, such as NYC Platform, an open government framework featuring Application Programming Interfaces (APIs) for City data. Furthermore, the website nyc.gov, consulted by approximately 2.8 million visitors per month, will be overhauled and redesign to make it more user-friendly and intuitive.¹

A robust entrepreneurial ecosystem

The strong and diversified economic structure of the city together with its dynamic start-up ecosystem is key for the city’s digital transformation. Over the past 5 years, the number of start-ups created in NYC has boomed, driving a flow of venture capital money into growing industries such as real estate tech, clean-tech, ad-tech, food-tech and fintech.

Overall, there are today over 1,000 web-based technology start-ups in the city. Gilt, an online shopping website created in 2007 and valued at one time at over $1 billion on paper or Tumblr, the famous microblogging and social networking website are good examples of dynamic start-ups that have recently emerged in NYC. This trend is not about to stop as many new start-up blossomed in 2015 and 2016 and are exciting IT experts from all over the world. The dynamism and the success of the local tech ecosystem is based on several pillars:

- a strong network of private investors,
- economic activity concentration; and
- a rich pool of ICT talents.

Leveraging on NYC’s position of global financial center

In terms of support to entrepreneurship, New York has had a lot of success and companies have less difficulties in securing significant funding thanks to its the numerous venture capital firms and business angels. NYC startup growth’s model, based on the abundance of incubators and accelerators fueled by large private investments has worked a lot in recent years. Its success is notably illustrated by the recent creation and internationalization of hundreds startups from New York.

The concentration of economic activities in Manhattan

New York is a relatively small city (Manhattan is only 13.4 miles by 2.3 miles), which means that the major part of the city’s activity is focused on the same small area and that companies are concentrated all together. This concentration of companies, talents, infrastructures and resources creates a dynamic climate where it is easy to network, find new talents and co-create.

Map of NYC’s digital startups

Training ICT talent to attract new ICT talent

Both public and private stakeholders have worked hard to attract brains from all over the world. Thanks to this strategy, New York benefits today from a rich pool of creative, engineers and business talent which creates a virtuous cycle for global students and entrepreneurs. ICT talent coming in New York are turning the city into an even more innovative and business-friendly ecosystem which attracts many more talented people.

Matching global talents with innovative companies

New York tries to rely on its realized benefits and its robust entrepreneurial and start-ups network to consolidate its local tech ecosystem and compete with the Silicon Valley and other international tech hubs. The city has massively invested to create a special point of density in lower Manhattan which has the capacity to attract and pool urban tech entrepreneurs from all over the world.

The project aims to make this point a crossroad and a special place where entrepreneurs and digital experts from different cities can meet and cooperate but also work in global companies that are targeting their exact skills thanks to matching agencies. At this special place, the city and its companies will be provided with skills from the best talents, a dedicated workplace and with special professional services.  

“We would like to create a model in which we can match entrepreneurs from different cities in the world to NYC itself, with the help of special agencies that would pair companies and entrepreneurs. This is a challenge!” — Antona Tuula, Director for Economic and Business Development, Espoo Mayor’s Office.

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Drivers and obstacles

The rise of the digital economy has been fostered by a series of drivers including support from several categories of stakeholders. It was also enabled thanks to the prominent presence of infrastructure and intrinsic characteristics that favour networking and make the city’s the fastest growing start-up technology centre.

Drivers

Key infrastructures

Due to the small size of Manhattan and the lack of affordability in housing, workplaces for startup and SMEs such as co-working structures are highly sought-after.

General Assembly, created in 2011 and focusing on bridging the global skill gap, and WeWork Labs stand as cases in point. General Assembly provides classes and co-working spaces for companies and has known a great success as it already hosted over 100 early stage startups only one year after its creation.

WeWork Labs gathers early-stage startups and provides them with working areas, tools, community and connections to help them grow from a prototype to a sustainable business. Its participating member companies have raised over USD 1 billion since the lab creation in 2010. The global objective of WeWork Lab is not only to provide a nurturing environment for entrepreneurs but to build a community of innovators with shared values. It also partners with venture capitalists and other industry professionals.

A new technology-focused campus opened by Cornell University

Cornell University is a private research university and a partner of the State University of New York. Its engineering and computer science programs rank among the nation’s top 10 and benefits from deep financial resources.

It was chosen with the Technion-Israel Institute of Technology by the Bloomberg Administration to build an applied sciences and engineering campus on Roosevelt Island. The objective behind is to host an innovative and technology-focused research university that delivers graduate-level education. The campus is planned to open in summer 2017. 

General Assembly

General Assembly is well-known for hosting promising startups but is also a campus for technology, design and entrepreneurship. It was created in 2011 and has today a global presence in 20 cities with over 35,000 graduates.

General Assembly aims to target today’s digital most-in-demand skills through its trainings and career transitions offers. It both educates individuals and companies to bridge the gap between job seekers and companies needing talents with targeted skills. The campus is specialized in coding, Data, design, business and career development.

Key stakeholders

Private investors, especially venture capital firms stand as the driving force behind entrepreneurship and innovation.

A major venture capital hub

The technological boom in New York is fueled by the recent and large availability of capital offered by business angels and venture funds. In 2012, 486 digital start-ups created in the city since 2007 have received angel, seed or VC funding and venture capital investors have poured over USD 8 billion in transactions involved NY-based startups since 2009.
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Growth in VC deals has been slowing down almost everywhere except in New York where venture capital investment is booming.

Venture capital firms have united through the NYVCA (New York Venture Capital Association), which works with investors and entrepreneurs to advocate for innovation, job creation and economic development.

A new wave of incubators and accelerators

The flood of tech start-ups in New York is triggered by the dozen incubators and co-working spaces that have opened in the city in the past seven years, while there were no incubator in the city before 2009. A wave of tech accelerators has also emerged in the city in the past few years.

A proactive public sector promoting private initiatives

The public sector and local government have actively supported the city’s digitalisation and entered in many public-private partnerships to engage all stakeholders in New York’s technological take-off.

To support entrepreneurs and innovation, former Mayor Bloomberg signed in 2012 the Open Data Law which requires city agencies to post a wide range of government data to a central open data portal. All public data will be made available on this portal by the end of 2018.

Key initiatives

The NYCEDC and the creation of a sustainable urban economy

NYCEDC (NYC Economic Development Corporation) gathers a group of skilled individuals dedicated to the creation of a dynamic, equitable and sustainable urban economy through the focus on 5 pillars: infrastructures, human capital, city assets, the incubation and acceleration of businesses and the culture of a global capital of innovation.

In this respect, NYCEDC sponsors 18 incubators in several domains such as fashion media, biotechnologies, cleantech, such as the Sunshine Bronx Incubator or Varick Street.

To assist local start-ups, it also opened a centralised information portal about investment and education opportunities called NYC Venture Connect and launched a competitive mentoring program for early stage start-ups.

TechStars

TechStars is one of the best known accelerators operating in New York. It was created in 2011 and has accepted today more than 100 companies into its programs which represent collectively a market cap of over $8 billion and has raised $2.95 billion since its creation.

The open database Digital. NYC

Digital.NYC is the official online hub of New York City start-up and technology ecosystem and aims to connect every local companies, startups and investors and inform them about events, jobs, classes, blog, videos, workspace, accelerators, incubators, resources and organizations.

NY Tech Alliance: a comprehensive partnership

NY Tech Alliance is a non-profit organisation supporting the New York tech community and ecosystem and gathering more than 60,000 stakeholders from technology and digital sectors. It hosts a monthly meetup in New York as well as educational and social events and has built several partnerships and programmes, such as “Women in Tech”, an alliance promoting the role of women in the digital industry.

Obstacles

Lack of real estate and affordability

If New York gathers an exceptional pool of talents, modern infrastructure and a highly prestigious image, this comes at a price: living and finding a workplace and an accommodation are extremely costly. This can be a major barrier for entrepreneurs wishing to bootstrap.

Discouraging administrative procedures

Administrative procedures to register a company and obtain a license in New York are complex and lead to painful loss of time and extra costs. This is the result of slow and sometimes inefficient administrative services and of the large amount of paperwork needed for registering a business in NYC.
In addition, many executives complain about complex visa processes that prevent them from hiring highly qualified talents from abroad. This situation seems to be worsening as the Federal State is restricting immigration laws.

The threat of a talent gap and mismatch

The lack of top-tier engineers is one of the big barrier to the city’s growth in tech and digital sectors. This issue is even more challenging than it becomes difficult for firms to hire highly-qualified engineers from abroad.

This is why the only solution for New York seems to train and upskill its population and to motivate its youth to embrace engineering careers.

A large income and educational disparity

New York’s growth lacks of inclusivity: a part of the population is not skilled and wealthy enough to benefit from the digital transformation. Today, 16% of New Yorkers lack a high school diploma and 35% of youth 18-24 are unemployed or in low-wage jobs. This situation is compounded by defects in the education system, because high schools do not always offer education and training matching with local companies’ needs.

Lessons learnt

As the fastest growing start-up technology center and one of the most renowned city in the world, New York City allows a series of lessons learnt to be drawn, which can serve as example to other cities wishing to embark on a similar path. Namely, providing entrepreneurs a large funding capacities to nurture their business thanks to the involvement of angel investors, venture capital firms as well as incubators and accelerators, enabling individuals to develop their business and cooperate in dynamic workspaces, together with the active participation of the local government and universities to bridge the global IT skill gap.

The role of a network of angel investors and venture capital firms

A first lesson learnt towards the successful installation of NYC digitalisation is that providing a locally-based network of angel investors and venture capital firms is critical to any region looking to develop a sustainable innovative environment.

The key action of incubators and accelerators for digitalisation

New York’s example shows that incubators and accelerators are fundamental ingredients at the hearth of the digital transformation of an economy. In the last 10 years, the number of incubators and early-stage accelerators has exploded in NYC and meanwhile, an amazing technological development has occurred in the city. Incubators and accelerators provide a business-supportive environment where start-ups can launch and grow their business and can benefit from the expertise of investors and other entrepreneurs at a very low cost.

Common work areas speed up technological innovation

NYC case study also highlights the importance of gathering companies, research centers, universities, professional services and investors in a same place. The lesson is that clustering talents and key stakeholders fosters the creation of an innovative ecosystem where companies, individuals and investors can benefit from the knowledge and the dynamic of each other.

In addition, coworking hubs are very valuable in a city with some of the highest real estate prices in the world.

Universities as a key tool for creating a local high-skilled workforce

New York’s dynamics and attractiveness are linked with the ability of its top-universities to cooperate with private and public stakeholders to know precisely the relevant and most sought-after local skills. As the digital sector faces a global skill gap, having an educational system able to teach the relevant abilities and to promote engineering and science careers is vital to sustain the attractiveness of a city.

Meanwhile, New York’s case shows the necessity for a city to offer top-tier university and training programs in order to attract world’s best talents. Human capital is one of the foundation of growth and innovation, therefore attracting talent and tailoring them to their very special needs are priorities for ambitious digital cities.

“The consistent challenge for the companies we work with at any stage of development is finding good tech talent. The hunger for developers and technological talent is totally insatiable. ” – Thatcher Bell, Gotham Ventures
Key Recommendations

The main recommendations stemming from the experience of New York as a technological hub include the creation of a dynamic public sector supporting and financing the creation of innovative companies and the adaptation of the legislative and educational framework to attract talents in NYC. Efforts to ensure all residents can benefit from the opportunities offered by the digital economy should also be reinforced.

Provide a targeted public support

As previously discussed, NYC technology and digital sector’s growth has been mainly supported by private actors and initiatives led by individuals. Local government has already achieved a lot regarding the digital transformation through the definition of ambitious and coherent objectives and roadmaps and the numerous collaboration with private stakeholders. However, it could play a greater role, first by coordinating and giving greater audience to private initiatives that can look too numerous and scattered. Indeed, many support is given to entrepreneurs in NYC (networking events, coaching from other entrepreneurs, financial support, …) but there is a lack of awareness of their existence and potential.

Second, the dynamic growth in NYC is not inclusive enough and could benefit to a wider range of the local population. Indeed, there are still 16% of New Yorkers which do not have a high school diploma. Local government should do more on upskilling its workforce, promoting IT and engineering careers. Providing a broadband access and fundamental digital skills to its residents is also key.

<table>
<thead>
<tr>
<th>Category</th>
<th>Role of the stakeholder</th>
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| Local government          | • Raise awareness among all stakeholders, especially education-providers and students, about the needs of engineers and technology experts and design a set of incentives to promote those careers.  
  • Provide a broadband access to all of NYC citizens and focus on the Bronx, Brooklyn, Queens and Staten Island instead of Manhattan to favour the installation of companies in those boroughs.  
  • Facilitate administrative tasks for opening a business in NYC, especially for foreign talents.  
  • Try to influence federal decision-makers in favour of a more open immigration regarding academics and international talents.  
  • Take the leadership in coordinating private initiatives and inform individuals about the available tools and supports addressed to them. |
| Businesses                | • Provide funding and support to early stage start-ups to foster innovation.  
  • Continue to cooperate to develop concrete innovative projects |
| Universities/Research centres | • Promote science and research careers because the technology sector, coupled with healthcare, is the fastest-growing in NYC.  
  • Put a stress on providing a quality education to every New Yorker and set KPIs to measure the level of progress achieved. |
Educate and upskill the city’s population to bridge the engineer skill gap

New York knows a great success regarding startup and companies creation and development. But when they grow, startups require more and more employees and the local pool of human resource is not sufficient enough to meet demand. The paradox is that millions of New Yorkers are looking for jobs while employers are struggling to find skilled workers.

The focus should be led on healthcare and technology as they represent 45% of total middle-skill job postings in 2013-2014 while 46% of New Yorkers lack the postsecondary credentials to fill these jobs openings.

Therefore, universities and public actors should ensure that a system of incentives is in place to promote technology careers and to support tech students.

Facilitate the hiring and the immigration of foreign talents

NYC dynamic is fueled by immigration, especially in the digital and high-tech sector due to the city’s talent mismatch. Therefore, complicated visa process and administration procedures as well as laws limiting immigration could present a serious threat to NYC future economic progress.

This is why local government should working on facilitating administrative procedures and lowering set-up costs for foreign talents. There is also a need for a strong politician action pressing for relaxation of the overhaul of US immigration policy considered by the Trump Administration.

Open more working places for entrepreneurs and innovators at affordable prices

Finally, it is important to make it possible for entrepreneurs to find working spaces at an affordable price to make NYC remain a business-friendly environment on the long run. A compounding issue is that the lack of space in Manhattan creates a negative trend regarding the availability and affordability of work areas.

To help entrepreneurs facing this challenge, private stakeholders should provide generous funding to early stage start up, as it is difficult for them to find banking loans due to the risk of their business. In addition, local government should promote the migration of economic activities outside New York’s borough, for example in the Bronx where prices are much cheaper. To make it possible, it is necessary to work on offering the same level of services and infrastructures as in Manhattan.

References


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4 See ¹

5 Interview with Ms. Antola Tuula, Director for Economic and Business Development, Espoo Mayor’s Office, 2015.

6 Cornell Tech’s Roosevelt Island Construction Project website http://construction.tech.cornell.edu/


8 NYC OpenData for All New Yorkers https://opendata.cityofnewyork.us/

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About the Digital Transformation Monitor

The Digital Transformation Monitor aims to foster the knowledge base on the state of play and evolution of digital transformation in Europe. The site provides a monitoring mechanism to examine key trends in digital transformation. It offers a unique insight into statistics and initiatives to support digital transformation, as well as reports on key industrial and technological opportunities, challenges and policy initiatives related to digital transformation.


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