B20 Digital Economy Policy Paper

October 2015

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For other B20 taskforce policy papers and the B20 Policy Summary please see http://b20turkey.org/policy-papers/

EXECUTIVE SUMMARY

The continuing digital revolution has powered dramatic development of numerous technologies and business models, sparking creative disruptions to the way we live and work. Two billion people are connected to the Internet, and this number is growing by 200 million every year. Almost $8 trillion changes hands through e-commerce each year. In mature countries, the Internet accounts for 21% of GDP growth[1]. New information and communication technologies blur the boundaries between the digital and physical world. The development of digital technologies in social, mobile, analytics, and cloud (SMAC) have led to convenience, connectivity, and constant access to information. Smart homes, connected cars, and billions of Internet-enabled digital devices deliver utility that has never been possible before.

Efficient and effective use of digital technologies has become fundamental to companies' competitiveness and growth prospects; equally, countries that have achieved high levels of digital uptake and implementation by citizens and government, alongside business, will realize significant benefits in their economies, their societies, and public services.

Yet digital technologies, along with their benefits, also bring with them new economic and regulatory challenges for businesses and governments. These can be summarized as follows:

- The need to strengthen multi-stakeholder Internet governance and increase collaboration between different stakeholders
- The necessity of fostering digital trust in an era that has witnessed an explosion in collection and usage of personal data to stimulate innovation
- The challenge of bringing regulation in line with new disruptive business models and complex technologies
- The need to bridge the digital divide to increase the consequent positive socio-economic impact on businesses and citizens

The call on governments to digitize services and processes to fully benefit from new technologies

Governments should develop digital transformation plans based around concrete actions designed to unlock the digital economy and to release the potential for the technology to contribute fully to global growth and competitiveness.

Building on the work of the six B20 Taskforces around Trade, Financing Growth, Infrastructure and Investment, Anti-corruption, Employment, and SMEs and Entrepreneurship, the following recommendations to the G20 governments seek to create the right environment for capturing the benefits of digital growth:

1. **Develop alternative policies to data localization**
   - Address growing issues concerning the movement of data and adopt alternative policies to data localization.

2. **Improve the global trade system for the emerging digital economy with direct focus on e-commerce and digital trade**
   - Discuss trade-facilitation measures to improve customs procedures with a direct focus on e-commerce challenges.
   - Establish one-contact information centers to support SMEs around legislation issues concerning cross-border e-commerce.

1 Sources for the statistics: World Bank, 2009; Gartner, 2010; Eurostat 2010.

3. **Improve access of enterprises to digital economy and infrastructures**
   - Commit to improved digital infrastructures and incorporate a five-year universal broadband connection target for G20 countries.

4. **Develop and finance programs aimed at reducing skills mismatches in an era of rapid changes in technology and innovation**
   - Establish a problem-solving and practice-focused STEM education approach in collaboration with the business community to prevent the expected skills shortage in STEM jobs.

5. **Assure legislative and regulatory support for alternative forms of funding**
   - Support the emergence and growth of alternative sources of funding by harmonizing policies, regulations, and standards.

6. **Improve digitization of government processes**
   - Increase use of digital technologies to transform key business processes to create greater leaps in efficiency and productivity.
   - Promote integrity in public procurement by instituting digital systems for efficiency and transparency to address issues during the procurement process.
   - Reduce corruption and improve efficiency in trade by moving towards a comprehensive digital environment for customs and cross-border systems through public-private collaboration in all G20 countries within five years.

7. **Establish a G20 governance mechanism to implement measures to improve the digital economy**
   - Start a study group, with the inclusion of the World Trade Organization, World Customs Organization, International Trade Center, World Bank, OECD, the Global Commission on Internet Governance and the relevant engagement groups

The widespread adoption of digital technologies can accelerate competitiveness by creating opportunities for productivity, innovation, and growth. Governments need to act to convert digital potential into growth, across all sectors of the economy, by creating the right conditions for businesses to invest.

B20 Digital Economy Forum Constitution and Process

B20 Turkey Leadership

The Deputy Prime Minister of Turkey Ali Babacan appointed an executive committee that included representatives from Turkey's six leading business organizations to guide the work of B20 Turkey in 2015 under the leadership of Rifat Hisarciklioglu, B20 Turkey Chair and President of the Union of Chambers and Commodity Exchanges of Turkey: Mehmet Buyukeksi, Haluk Dincer, Nail Olpak, Erol Kiresepi, Erdal Bahcivan, and Tuncay Ozilhan. The executive committee appointed Sarp Kalkan as B20 Sherpa.

B20 Policy Development

The B20 organized itself around six taskforces: five of them – Trade, Infrastructure and Investment, Financing Growth, Employment, and Anti-Corruption – built on the work of the previous cycles' taskforces, and given the G20's priority of implementation, focused on advocacy and refinement of the existing set of B20 recommendations. Given the G20's inclusiveness priority, the SMEs and Entrepreneurship Taskforce was newly established to develop recommendations to better integrate SMEs into the global economy. All taskforces highlighted the role of the digital economy during the recommendation development process.

The Economic Policy Research Foundation of Turkey (TEPAV) provided content for taskforce recommendation development, with a team led by Ussal Sahbaz, B20 Content Lead. Directly reporting to B20 Turkey Chair, the B20 Steering Committee supervised the B20 content. The members of the Steering Committee were Tunc Uyanik (chairman), Janamitra Devan, Robert Milliner, and Guven Sak.

B20 Digital Economy Forum

The first B20 Digital Economy Forum convened in Istanbul on October 6, 2015 and the B20 Digital Economy policy paper was launched at the forum. The paper brings together the digital economy-related recommendations from the six taskforces, and provides a context for a public-private dialogue around the policy dimensions of the digital economy. The Digital Economy Forum received in-depth content and process support from Accenture as its knowledge partner, and the B20 Coalition as the international network partner. The paper also received inputs from the participants in the B20 Digital Economy Forum, including the International Chamber of Commerce, World Economic Forum, PayPal, Facebook, Google, Twitter, IBM, and Intel. Please see the appendix for the full list of speakers at the B20 Digital Economy Forum.

MESSAGES from LEADERS

Without any doubt, one of the greatest, and perhaps rather silent, revolutions in the history of the world is the digital revolution. This revolution is progressive and has a unique ability to transform our lives for the better. As individuals, citizens, and business people across the globe, we experience the benefits of digital technologies every day. Therefore, as B20 Turkey, we believe that the voice of such transformative power should resonate in the policies of the G20 governments. Accordingly, we have made the digital topic a theme that cuts across all of the B20's six taskforces – the first time since the inception of the B20 process five years ago. This paper is its final output; it aims to draw attention to the issues and controversies accompanying the digital transformation. We hope that it contributes to the debate surrounding the topic and will be of guidance to the G20 governments and the Chinese B20 and G20 Presidency in 2016.
M. Rifat Hisarcıklıoğlu, President, B20 Turkey and TOBB

Digitization is a powerful force in fostering global integration and can lead to innovation and cost-saving developments, new business models, the creation of new jobs, and even reduce uncertainties and risks in production. It can contribute to increasing customer choices and transparency in pricing, promoting competition, efficiency in public services, and global productivity – all of which will ultimately lead to enhanced economic growth. Globally, it will also play a role in simplifying fiscal fulfillments and positively impacting sustainability and the environment, as well as improving quality of life, but we should be aware of the need to manage its disruptive effects. The B20 Coalition, which brings together leading independent business associations from the G20 economies, representing 6.8 million businesses, has made fostering the integration of digital economy into the G20 agenda its priority in 2015. B20 Turkey has enabled the creation of a platform to support framing of appropriate policies and standards to leverage the potential of the digital economy. The B20 Coalition praises this initiative and is committed to nurturing these efforts in pursuing this process under the Chinese Presidency.
Perrin Beatty, President, B20 Coalition

Digital technology has already had a significant impact on society and the global economy. The digital enterprise has made great strides in improving efficiencies. And the next wave of digital operations will redefine industry sectors and the nature of the products and services they deliver. Despite the progress of the last decade, significant challenges stand in the way of the digital economy. The Turkish presidency of the G20 is focusing its efforts on the three I's of inclusiveness, implementation and investment to guide polices across the board. These principals are particularly relevant to creating a sustainable and healthy digital economy. They will help to build a digital economy that encourages investment in skills and infrastructure, and one that embraces large and small enterprises, mature economies and emerging markets, the affluent and the disadvantaged. It is important that governments act fast to implement actions. They must do so by recognizing the new norms established by the digital revolution. So widespread is the influence of digital technologies that all six taskforces of the B20 have included digital within their recommendations on a diverse range of topics. In this report, we collate these recommendations so that the breadth and depth of the digital economy can be harnessed positively for businesses and communities alike. We strongly advocate for the digital economy to remain high on the agenda as China takes on the presidency of the G20 and B20 next year.
Pierre Nanterme, Chairman & CEO, Accenture

INTRODUCTION

The continuing digital revolution has powered dramatic evolution of numerous technologies and business models, sparking creative disruptions to the way we live and work. Two billion people are connected to the Internet, and this number is growing by 200 million every year. The Internet economy[2] is expected to reach $4.2 trillion in 2016.[3] If the Internet were a nation, its economy would be the fifth largest in the world; the growth of the Internet economy is on par with China's growth rate.If the Internet were a sector, it would have a greater weight in global GDP than agriculture or utilities.[4]Almost $8 trillion changes hands through e-commerce each year. In mature countries, the Internet accounts for 21% of GDP growth.[5]

New information and communication technologies blur the boundaries between the digital and physical world. The development of digital technologies in social, mobile, analytics, and cloud (SMAC) have led to convenience, connectivity, and constant access to information. Smart homes, connected cars, and billions of Internet-enabled digital devices deliver utility that has never been possible before.

Efficient and effective use of digital technologies has become fundamental to companies' competitiveness and growth prospects; equally, countries that have achieved high levels of digital uptake and implementation by citizens and government, alongside business, will realize significant benefits in their economies, their societies, and public services.

G20 governments will need to respond to the emerging digital economy. This requires response in multiple policy areas and coordinated efforts both within government departments as well as cross-border. This is the first B20 Policy Paper on the digital economy[6]; as such, it puts forward recommendations to the G20 governments to improve the digital economy globally, and highlights the key areas that prospective studies will continue to address overtime. The paper includes six recommendations that emerged from the formal B20 taskforce processes and a seventh recommendation which concerns the governance of the implementation of the first six recommendations.

Digital disruption is here and now

Digital transformation is big, unprecedented, and all-pervasive – it impacts all industries, markets, and countries, and is unfolding in three major ways:

Digital customer: Digital technologies have created massive disruption[7]to the way we live and work, to the way customers purchase products and services and interact with companies and governments, to the way companies innovate and operate, and to the way governments procure services and interact with citizens.

> Customers drive the digital world –this requires leaders to adopt an "outside-in" perspective on their business. Growth can no longer be accomplished simply by creating new products and marketing playbooks that move customers through linear purchasing processes. Creating smarter, seamless, and secure customer experiences at every "moment of truth"

2 "Internet economy" or "digital economy" as used interchangably throughout this memo refers to both digital products or services (software, movies, music, games, and so on) electronically transmitted as well as through e-commerce.
3 Boston Consulting Group (2012). The Internet Economy in the G20.
4 James Manyika, Charles Roxburgh (2011). The great transformer: The impact of the Internet on economic growth and prosperity, McKinsey Global Institute.
5 Sources for the statistics: World Bank, (2009); Gartner, (2010); Eurostat (2010).
6 There have been prior studies that put forward policy recommendations on the digital economy, most notably: B20 Coalition (2015), Digital Economy Driver for Growth.
7 Downes, L and Nunes, (2014), Big Bang Disruption: Strategy in the Age of Devistating Innovation.

defines expectations in the digital world. Customers expect their experiences to be constant, consistent, highly customized, and cross-channel.

Digital enterprise: Businesses reduce the cost of corporate functions and transform enterprise collaboration, seeking to exploit existing and emerging technology in new and innovative ways. Social media presents new ways to interact and collaborate; mobile technologies offer access everywhere, anytime; analytics deliver business insight. The cloud provides investment flexibility, allowing companies to leverage others' IT infrastructure and pay "as a service" based on usage.

Digital operations: The next waves of digital transformation are already looming. The Internet of Things (IoT) –that is, connected devices, platforms, and applications with embedded software – is helping to dramatically improve the efficiency of manufacturing, supply chain, and field operations through predictive maintenance and assets optimization, at the same time facilitating new business models based on selling outcomes (rather than products) to emerge. IoT's true power is achieved when the resulting sensor source data is coupled with big data analytics models to uncover new insights and utility from the data. In the near future, cognitive computing and artificial intelligence will further help automate routine tasks and improve efficiency. As society evolves towards an integrated digital-human workforce, IoT will transform many industries and reshape the very nature of work.

Once available, affordable, and scalable, these technologies essentially allow us to do more with less, creating the essential ecosystem to innovate more by lowering the cost of creation, experimentation and adoption; to ease access to services and increase transparency of information; and to increase workforce and assets productivity while transforming economic models and recalibrating deployment of capital from capital expenditures to operating expenses.

Digital is key to companies' competitiveness and GDP growth

Within the corporate world, digital business leaders seek new sources of competitive advantage and growth from using technology that can benefit the organization's customers, its workforce, and its trading partners. A Gartner/MIT CISR study[8]of 2,014 companies found that, on an industry-adjusted basis, those with above-average levels of digital revenue outperformed their below-average peers, growing 1.5 percent faster than the industry mean, on average. According to the study, during the same time frame, while below-average companies saw their revenues fall by 4.7 percent, above-average organizations experienced lower costs and higher capital productivity.

At a country level, a joint study of 17 G20 economies by Accenture Strategy and Oxford Economics[9] not only confirmed the link between increased use of digital technologies and greater productivity, but also quantified the resulting impact on competitiveness and economic growth.

According to the analysis, increased use of digital technology could add as much as US$1.36 trillion to the GDP of the world's top ten economies in 2020 – which is 2.3 percent more than baseline forecasts. In this ambitious but achievable scenario, a ten-point improvement in digital density(see below for definition) could raise annual average growth rates between now and 2020 by around 0.25 percentage points in advanced economies and around 0.5 percentage points in emerging markets (Figure 1).

8 "Companies with Better Digital Business Models Have Higher Financial Performance," Center for Information Systems Research (2013), MIT Sloan Management, Research Briefing XIII, Number 7

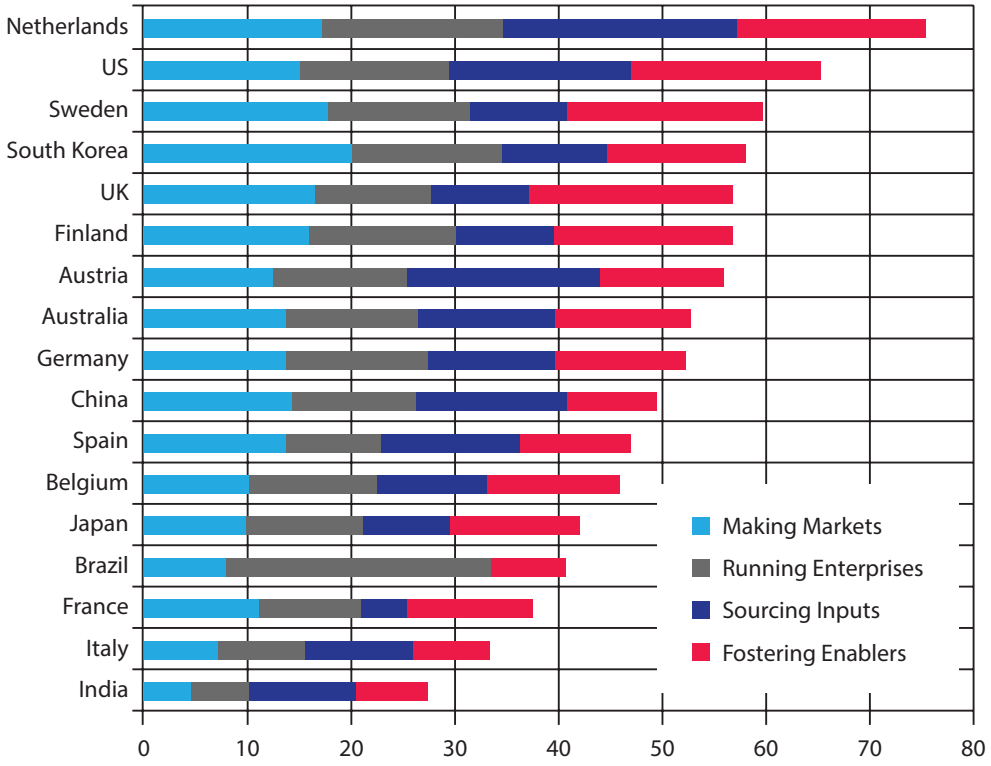
9 Accenture Strategy, Digital Intensity Index, Guiding Digital Transformation

Figure 1: Effect of a ten-point uplift in country digital density

	On GDP in 2020	On average annual GDP growth rates (2015 to 2020)
In advanced economies	1.8 percent higher than baseline	0.25 percentage points higher than baseline
In emerging economies	3.4 percent higher than baseline	0.5 percentage points higher than baseline

The research scores countries based on their Digital Density Index (see Figure 2), a comprehensive scorecard covering more than 50 indicators that reflect the degree of adoption of digital technologies in the economy, in terms of making markets, sourcing inputs and running enterprises, as well as the quality of fostering enablers, such as infrastructure, skills, social, business, and regulatory environments needed to realize the economic potential. The Digital Density Index helps governments identify needed interventions to optimize a country'sadoption and utilization of digital technologies and thus foster competitiveness and growth.

Figure 2: Digital Density Scores[10] – 17 Countries (0-100)

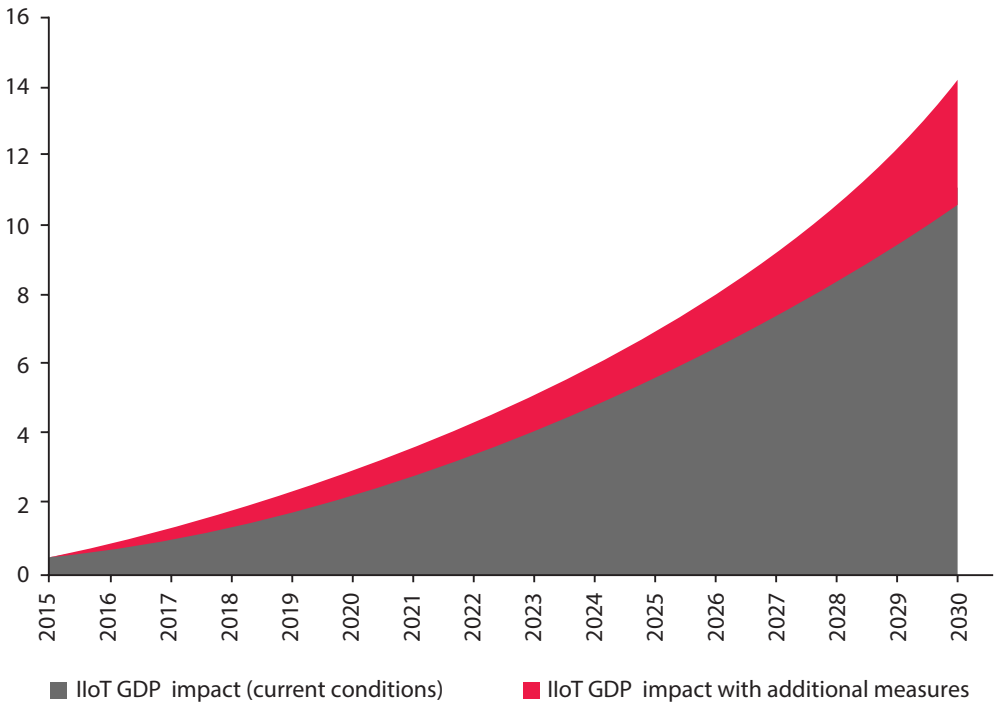


In the next decade, the IoT will arguably be the catalyst for productivity and growth, by connecting billions of devices, driving the emergence of new markets, services and capabilities and encouraging innovation. The IoT is a major trend with significant implications for the global

10 Accenture Strategy, Digital Intensity Index, Guiding Digital Transformation

economy. In 2014, it spanned across industries, representing 62 percent of GDP withinG20 nations, according to Oxford Economic[11]; these include manufacturing, mining, agriculture, oil and gas, and utilities. According to General Electric, today 46 percent of the global economy (US$32.3 trillion in global output) can benefit from the IoT.[12]Accenture research[13] estimates that successfully exploiting IoT could add $14.2 trillion to the global economy by 2030 through increased productivity and growth (see Figure 3).

Figure 3: Cumulative GDP Impact of IoT (US $ trillion)



Source: Accenture and Frontier Economics

Although operational efficiency is one of the key attractions of the IoT, it also offers businesses rich potential to introduce new digital products and services that communicate with each other and with people over a globalized world, generating entirely new sources of revenue to improve both the top and bottom lines. However, while business and policy leaders recognize the IoT's economic potential, in order to derive maximum economic benefit certain conditions need to be in place, and policy leaders must act to set their countries on the right path to fully capitalize on the IoT's potential.

There is also a clear and positive correlation between investment in the ICT (Information and Communications Technologies), and the growth of economic activity.[14] ICT is seen as an enabler for economic and social change in less-developed countries and is even believed to be a catalyst that could help countries to leapfrog the industrial revolution phase of development, giving less-developed countries the opportunity to catch up quickly with the Western world. Information and Communications Technology for Development (ICT4Dev) initiative is about overcoming this digital divide and creating new opportunities and possibilities for people

11 Oxford Economics Ltd. Global Industry Databank.
12 Industrial Internet: Pushing the Boundaries of Minds and Machines, (2012) General Electric
13 Accenture Strategy, The Industrial Internet of things, how to accelerate the journey to productivity and growth.
14 ICC policy briefing tool on ICTs' and the Internet's impact on job creation and economic growth.

living in less-developed countries. This aim is also reflected in the United Nations Sustainable Development Goals, one of which is to "significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least-developed countries by 2020." [15]

15 Sustainable Development Goal 9, Target 9/c.

GENERAL PRINCIPLES for DEVELOPING DIGITAL TRANSFORMATION PLANS

G20 governments need to address the new regulatory challenges posed by digital. Governments should develop digital transformation plans based around the following principles. Incorporating these principles will help unlock the full potential of the digital economy, which in turn will contribute to increased competitiveness and global economic growth.

The need to strengthen multi-stakeholder Internet governance and increase collaboration between different stakeholders

The robust growth in the ICT sector in the past ten years has been enabled in large part by the success of stakeholders working together within existing mechanisms. However, there is an increasing conflict around global mechanisms for Internet governance just at a time when we need a global consensus on appropriate rules, norms, and frameworks. Multi-stakeholder Internet governance needs to be preserved and strengthened. Collaboration between different stakeholders– governments, business, academia, and civil society –should continue. It is also critical to balance different demands in areas such as policy development and coordination, infrastructure deployment, standards design, and financing ICT for development, at global, regional and national levels. The private sector believes that a clear lesson from the past ten years is that the best formula for success is for all stakeholders to work collaboratively toward common goals.

Another critical part of the legal infrastructure is the scope of fundamental rights and freedoms. Broadening the scope of fundamental rights and freedoms, especially in the digital mediums, is a requisite for growth in the digital economy. Governments should refrain from adopting regulations that limit or block access to Internet services, hinder development of the digital economy, or harm the openness of the Internet.

The necessity of fostering digital trust in an era that has witnessed an explosion in collection and usage of personal data to stimulate innovation

A data explosion is driving innovation and growth across the global economy. Despite the benefits, there are growing concerns related to how personal data is collected, stored and used by organizations. While the increasingly sophisticated use of data constitutes a significant opportunity, there is undoubtedly an impact on consumers whose data is being coveted. With consumers entrusting their data to a wide variety of organizations, the trust dynamic between consumers and organizations is being tested.

G20 governments should strive to stimulate innovation and economic growth while simultaneously providing assurance that businesses and governments will use their personal data responsibly, guaranteeing data security, data privacy, benefits relevant to the data collected and stored, and business accountability for misuse. Policy frameworks should, in principle, enable global data flows essential to innovative technologies and business models.

There are four keys to digital trust, which is also outlined by the B20 Coalition study[16]:

- Security – protecting information against theft or unauthorized use
- Privacy/data control – controlling who gains legal access to personal information, when they get access, and what they can do with it

16 B20 Coalition, Safeguarding the Digital Economy.

- Benefit/value – ensuring that benefits are directly relevant to the data businesses are collecting and storing
- Accountability – ensuring that responsibility for misuse of information is taken by the right accountable parties and that corrective action is always taken

Digital trust relies on secure infrastructure and appropriate data-protection rules, as well as initiatives by businesses to become increasingly transparent with their customers as to how and why their data is used. Trust can only be improved by building transparency, accountability, and empowerment, with the collaboration of government and businesses.[17]Businesses, by adjusting their business models, should make sure that consumers receive appropriate returns from the collection of their personal data by businesses.[18] Governments should introduce laws to protect personal data, implemented by administratively independent agencies. Additionally, by setting synchronized legal frameworks on protection of personal data in different jurisdictions based on internationally agreed principles, and potentially introducing a new cross-jurisdictional judiciary, digital trust can be improved on a broader geographical scale, enabling global operations of innovative businesses.

The challenge of bringing regulation in line with new disruptive business models and complex technologies

Digital platforms are at the heart of the ongoing digital revolution and are giving rise to new digital "ecosystems" and business models that connect stakeholders, service providers, partners, and vendors in new and unconventional ways. To mitigate the effects of disruption and help new businesses and markets flourish, G20 governments should be partners to businesses and encourage the adoption of new models and disruptive technologies, while regulating the potentially detrimental consequences of the new business models in terms of safety and health.

In today's globalized and data-driven world, traditional regulatory approaches are being challenged as technology outpaces the regulatory response. Governments should adopt a strategic approach to regulation that protects personal data, recognizes global business models, and leaves room for innovation so businesses and consumers can take advantage of new digital technologies. Regulation should be simple, minimize administrative burden, be consistent with international standards, and provide for sanctions that are proportionate to risk.

Regulation should focus on objectives, outcomes, and performance rather than impose a specific business methodology, through a design standard and, by implication, favor one set of providers over another. Businesses should decide the most appropriate methodology for meeting a specific regulatory requirement rather than having one-size-fits-all solutions imposed upon them. This will not only enable players of all sizes to grow and prosper across many markets but also help regulators tap in to the limitless potential of business innovation to drive higher performance in meeting regulatory objectives.

The need to bridge the digital divide to increase the consequent positive socio-economic impact on businesses and citizens

Broadly speaking, a digital divide is an economic and social inequality among people in their access to, use of, or knowledge of ICT. Accenture research also shows that within countries

17 Rethinking Personal Data: A New Lens for Strenghening Trust, World Economic Forum (2014)
18 See more at The Future of Privacy, Eduardo Ustaran (2013)

and industries, there is a sharp divide between companies' attitudes towards digital. "Digital transformers" understand how digital changes the nature of markets and invest to innovate and transform their business models. "Digital followers" view digital at best as a tool to steadily improve existing business activities.

G20 governments need both to encourage wide take-up of digital technologies as a source of competitiveness and growth, while ensuring equal access to technology and a level playing field across players. Broadband and ICTs can play a fundamental role in giving people voice and access to knowledge, information and education, and supporting the development of new skills and employment opportunities. It is critical for governments and companies to work together towards improved access to ICTs, especially broadband networks and services, and bridge the digital divide.

The call on governments to digitize services and processes to fully benefit from new technologies

Without utilization of digital systems and high-level reporting mechanisms, it is challenging for governments to create transparency and integrity in public services. For instance, corruption remains a significant barrier to trade, particularly where border and customs facilities are hindered by red tape, inadequate infrastructure, and low levels of security. Digital government procurement can help allocate funds more effectively and transparently, and improve ways to do business with the private sector. Governments should "lead by example" in the diffusion of the digital technologies, in public procurement and beyond.

B20 DIGITAL POLICY RECOMMENDATIONS TO G20

Governments need to act now to convert digital potential into growth, across all sectors of the economy, by having clear digital strategy and priorities. The six B20 taskforces around Trade, Financing Growth, Employment, SMEs and Entrepreneurship, Infrastructure and Investment, and Anti-corruption have already considered a number of recommendations related to the digital economy. Please refer to individual taskforces' policy papers for details on these recommendations, their estimated impact, and timeline for implementation. This paper provides an overview of B20 taskforces' recommendations, reiterates their importance, and, in some cases, expands on these. B20 digital policy recommendations to the G20 are as follows:

1. Develop alternative policies to data localization
2. Improve the global trade system for the emerging digital economy with direct focus on e-commerce and digital trade
3. Improve access of enterprises to digital economy and infrastructures
4. Develop and finance programs aimed at reducing skills mismatches in an era of rapid changes in technology and innovation
5. Assure legislative and regulatory support for alternative forms of funding
6. Improve digitization of government processes
7. Establish G20 governance mechanism to implement measures to improve the digital economy

RECOMMENDATION 1: Develop alternative policies to data localization.

Reference	D1
Recommendation	Develop alternative policies to data localization
Owner	G20 governments
Timing	Status update by the 2017 G20 Summit
Source	Trade Taskforce Policy Paper

Data-flow restriction is a phenomenon that has existed at a rudimentary level for decades but appears to have been reinforced in recent years. Cross-border data flow is essential for both business and consumers, and for both international trade and companies' daily operations. Regulations to protect consumer privacy are perfectly reasonable, but restrictions on where that data can be stored and analysed usually go beyond reasonable privacy protection. For instance, the recent ruling of the European Court of Justice that invalidates the long standing "Safe Harbor" pact covering EU-US data transfer will create a significant impact on over 4,500 companies including technology giants like Google and Facebook as well as small startups.

Restrictions on cross-border data-flows particularly impact SMEs. Access to digital products and services, such as cloud applications, provides SMEs with cutting edge services at competitive prices, enables them to participate in global supply chains and directly access customers in foreign markets. Indeed, the Internet is a great equalizer, enabling small companies to compete globally using the same tools as large and established companies.

Any data exchange has important security and privacy implications when sensitive information is involved. While general forced data localization is to be avoided, companies should have the opportunity to rely on local server and data infrastructures, at least for their crucial communication

and data flow. Such a choice-driven approach supports a free and more trustworthy approach to communication and encourages companies to strengthen their digital activities.

The B20 recommends that G20 takes the lead in addressing growing issues concerning the movement of data and adopt alternative policies to data localization such as the "accountability" principle. The accountability principle places responsibility on the organization carrying out the cross-border transfer rather than on the data subject or regulatory authority. The transferring organization has an affirmative responsibility to establish rules and procedures that achieve actual data protection, or to participate in a system that does so. However, placing the responsibility on the organization that uses data should be supported with a cross-border eco-system of laws to protect personal data along with administratively independent authorities to implement these laws in the jurisdictions where data is to be transferred, and an overall digital trust environment developed in collaboration between governments and business.

Recently, United States, and 11 other Asia-Pacific nations have taken an important step in this area and reached a consensus on the terms of the Trans-Pacific Partnership (TPP) where the TPP Parties commit to ensuring free flow of the global information and data that drive the Internet and the digital economy, subject to legitimate public policy objectives such as personal information protection. The 12 Parties also agreed not to require that TPP companies build data centers to store data as a condition for operating in a TPP market and, in addition, that source code of software is not required to be transferred or accessed. To protect consumers, TPP Parties agreed to adopt and maintain consumer protection laws related to fraudulent and deceptive commercial activities online and to ensure that privacy and other consumer protections can be enforced in TPP markets.

Leading practice 1: Examples of the "accountability" principle
Some examples exist in Australia, Canada, Singapore, the Philippines, and also between the United States and European Union (US-EU safe harbor), whereby data can be transferred cross-border if the organization ensures that the data is protected abroad in a manner that is comparable to how it is protected locally. In APEC, 21 countries developed the Cross-Border Privacy Rules (CBPR) and the APEC Privacy Recognition for Processors (PRP) System, which set standards for data transfer: countries can freely transfer data as long as they comply with the standards. Compliance to standards is ensured through verification and certification via licensed audit agents. *Source: AmCham China*

RECOMMENDATION 2: Improve the global trade system for the emerging digital economy with direct focus on e-commerce and digital trade.

Reference	D2
Recommendation	Develop alternative policies to data localization
Owner	G20,World Trade Organization, World Customs Organization, International Trade Center, World Bank, OECD
Timing	Status update by the 2016 G20 Summit
Source	Trade Taskforce Policy Paper

The emerging digital economy fosters global trade and it is especially important for SMEs (small and medium-sized enterprises) to be part of this cross-border trade. All companies, including SMEs, can become involved in the digital economy and expand their geographic reach dramatically with e-commerce and digital trade. Customs issues are a significant concern for e-traders, which mostly tend to be smaller companies sensitive to the costs incurred while navigating customs procedures.

Another challenge is the diverse local legislation on imports and exports, sales legislation, and consumer-protection rules across the globe. Compliance with such regulations is especially burdensome for a small e-trader, particularly when they usually lack the requisite resources to collect and analyze all of the relevant information for the countries in which they sell. In order to tackle the "lack of information" barrier, **B20 recommends that G20 governments establish one-contact information centers to support SMEs around legislation issues concerning cross-border e-commerce.**

Leading practice 2: E-commerce genie in EU
This EC-sponsored project, dubbed PECOS4SMEs, has set up an "e-commerce genie" where merchants can log in and create their profile with their location information, what they want to sell, and where they would like to sell. The genie provides all the information specifically required for their business. *Source: European Commission*

RECOMMENDATION 3: Improve access of enterprises to digital; commit to improved digital infrastructures and incorporate a five-year universal broadband connection target for G20 countries into the G20 Growth Plans.

Reference	D3
Recommendation	Improve access of enterprises to digital; commit to improved digital infrastructures and incorporate a five-year universal broadband connection target for G20 countries into the G20 Growth Plans
Owner	G20 governments
Timing	Incorporation into growth strategies at Antalya G20 Summit (2015); Achievement of targets by 2020
Source	SMEs and Entrepreneurship Taskforce and Infrastructure and Investment Taskforce Policy Paper

As the EU states "digital economy… is the single most important driver of innovation, competitiveness and growth, and it holds huge potential for… entrepreneurs."[19]Countries with increased adoption of digital technologies realize greater productivity and reach their economic potential. Innovation makes an important contribution to businesses' productivity and growth, and is a requirement for SMEs' successful participation in global value chains (GVCs). However, all businesses including SMEs face several barrierstoinnovation.

Increased access to IT goods has a crucial role in governments' development goals. The Information Technology Agreement (ITA) signed in 1996 eliminates all duties on IT products under the agreement's coverage. However, since the agreement came into force almost 17

19 The importance of the digital economy, European Commission

years ago, numerous IT products incorporating increasingly sophisticated technologies have entered the world market. It is vital for product coverage under the ITA to be broadened. **B20 recommends the G20 governments to push for conclusion of ITA II, encompassing the broadest-possible definition of IT goods.**

Access to broadband and new digital networks such as cloud platforms are pre-conditions for digital entrepreneurship, innovation, and growth. By adopting cloud solutions, businesses can lower operating costs and transition from a fixed-cost structure to a variable one while freeing up critical resources for strategic initiatives and innovation.

B20 recommends the G20 governments incorporate a five-year universal broadband connection target for G20 countries into the G20 Growth Plans[20], and to provide for continuous investment in next-generation digital networks. Broadband connectivity base speed definitions, for example, change from country to country. Therefore, while considering investment in broadband targets, the G20 countries should come to a consensus on what an average broadband connectivity rate should be.[21]

There is also an urgent need to attract and protect private investments in the digital environment to ensure via smart public policies that countries are not left behind in digitization. This includes the need to foster adequate levels of digital infrastructures deployment in order to support the increase of digital use and network traffic in the future.

RECOMMENDATION 4: Develop and finance programs aimed at reducing skills mismatches especially for STEM education

Reference	D4
Recommendation	Develop and finance programs aimed at reducing skills mismatches in an era of rapid changes in technology and innovation; establish a problem-solving and practice-focused STEM education approach in collaboration with business to prevent the expected skills shortage in STEM jobs
Owner	G20 governments
Timing	Status update by 2016 G20 Summit
Source	Employment Taskforce Policy Paper

Digital disruption requires new skills; in an economy where skills mismatches are already troubling many countries in the world, the demand for the science, technology, engineering and mathematics (STEM) education will grow immensely.

In facing the challenges presented by the widening skills gap, governments and businesses are both expected to take on responsibilities for steering the focus of skills development, as well as facilitating and financing skills development initiatives. With forward-looking and flexible policies, and by facilitating learning across countries, G20 governments could unlock the potential of youth and preemptively address the social ramifications of skills mismatches. Revising STEM education approaches could limit skills mismatches by addressing the skills gap in these subjects; however, there is a need to establish a problem-solving and practice-focused STEM education methodology tailored for future skill requirements in order to address this

20 Specific recommendations on infrastructure are developed in the B20 Turkey Infrastructure and Investment Taskforce Policy Paper.

21 For instance, a recent Akamai study suggests that the global broadband connectivity rate is 5 Mbps or more

gap. Considering the pace of global transformation and the emerging new business models, G20 governments should be focused on developing learning agility so that education systems create transferable competences that do not expire as market conditions change.

Leading practice 3: Germany – MINT Zukunftschaffen

"MINT Zukunftschaffen" is an association to deal with the lack of specialists in science technical careers in Germany. There are over 14,000 "MINT ambassadors" including connected STEM networks such as the German Mathematical Society and Association for Electrical, Electronic and Information Technologies. The ambassadors are involved in education for STEM thoughts, available work placements and mentoring. Currently, 32% of all students are studying in STEM subjects in Germany, whereas the OECD average is only 23%.

Source: Mint Zukunftschaffen Official Website.

RECOMMENDATION 5: Assure legislative and regulatory support for digitally enabled alternative forms of funding.

Reference	D5
Recommendation	Assure legislative and regulatory support for digitally enabled alternative forms of funding
Owner	G20 governments
Timing	Status update by 2016 G20 Summit
Source	Financing Growth Taskforce Policy Paper

Enabled by digital technologies, newer forms of alternative financing have begun to emerge in recent years, some with considerable promise to improve access to financing for different segments of the SME universe, from microenterprises with fewer than ten employees to medium-sized companies. Crowd-funding platforms have been fast-developing conduits for peer-to-peer funding, especially in the United States and United Kingdom, with global crowd-funding volumes growing from US$1billion in 2011 to US$16 billion in 2014. World Bank estimates anticipate further increase to US$96billion by 2025.[22]Of course, crowd-funding may benefit from an appropriate focus on consumer protection where needed to underpin confidence and facilitate growth and the achievement of meaningful scale.

Peer-to-peer lending is rapidly growing in popularity around the globe due to its perceived low interest rates, simplified application process, and quick lending decisions. Although in its infancy as a market, US peer-to-peer platforms issued approximately US$5.5 billion in loans in 2014.[23] The International Organization of Securities Commissions estimates that global peer-to-peer originations could exceed US$70 billion within the next five years.[24]

These developments are happening at a critical time when new lending by banks to SMEs has fallen substantially in many G20 countries since the start of the global financial crisis and has been significantly constrained in others, adversely affected by weaknesses in borrowing demand and more cautious attitudes toward risk.

22 Crowdfunding's Potential for the Developing World, infoDev, World Bank (2013)
23 The Secured Lender: Peer to Peer Lending, Fundation, (December 12, 2014)
24 Banks Heat Up Bidding for Peer-to-Peer Loans, National Mortgage News, (October 7, 2014)

G20 governments should support the emergence and growth of alternative sources of funding by harmonizing policies, regulations, and standards. Regulations applied to funders should help protect stakeholders, limit risks (default, platform failure, fraud, cyber-attack, illiquidity) and maintain healthy development.

Leading practice 4: China – Peer- to-peer lending
DHgate has offered service to its online merchants since 2010. Merchants apply for a loan on the e-commerce platform. The DHgate platform provides endorsement based on historical data, and a link with a partner P2P platform to obtain matching investors for the loan. The endorsement from the e-commerce platform becomes a trusted identity, so the merchants can enjoy lower interest rates and much faster matching approvals. No collateral or third-party guarantors are needed. *Source: APEC Framework for SMME Financing Report, SMME Internet Financing in China, ABAC China, April 2014*

RECOMMENDATION 6: Improve digitization of government processes.

Reference	D6
Recommendation	Improve digitization of government processes
Owner	G20 governments
Timing	Status update by 2016 G20 Summit
Source	SMEs and Entrepreneurship Taskforce and Anti-Corruption Taskforce Policy Paper

Digital technologies take time, cost, and distance out of an activity or process. They also simplify access to services, and increase transparency of compliance, reducing corruption risks. Governments should increase their use of digital technologies to transform key business processes to generate greater efficiency and productivity through improved ease and simplicity of access, increased transparency of procedures, and lower costs.

Key areas of importance for SMEs in this space include[25]: 1) single-point business registration across government agencies, 2) opening of government procurement processes, 3) e-customs procedures, 4) e-billing, and 5) e-tax procedures. In addition, the opening up of government data is expected to fuel entrepreneurial innovation. Moreover, governments should integrate digital technologies to all of their back-end operations to increase the use of analytics to improve processes as well as develop new data uses and benefits.

Technology enables new e-procurement systems to add transparency, control, and accountability, and thereby reduce corruption.[26]These systems can also reduce the time spent on procurement activities and increase participation and competition in projects. **B20 recommends that G20 governments promote integrity in public procurement instituting digital systems for efficiency and transparency to address issues during the procurement process.**

Electronic customs and cross-border automated clearance systems reduce human touch points in the clearance process and thus reduce opportunities for requests for improper payments. They enable better tracking and analysis of transactions that could be used to identify

25 B20 Turkey SMEs and Entrepreneurship Taskforce Policy Paper.
26 B20 Turkey Anti-Corruption Taskforce Policy Paper.

control weaknesses and reveal suspicious transaction patterns. **B20 recommends the G20 governments to reduce corruption and improve efficiency in trade by moving towards a comprehensive digital environment for customs and cross-border systems through public-private collaboration in all G20 countries within five years.**

Leading practice 5: UN e-government survey

The UN e-government survey 2014 assesses progress made in digitizing government processes and opening government data. The Republic of South Korea, Australia, and Singapore come out ahead. As for the case in the top country, the Republic of South Korea started implementing its Advancement of e-Government Strategy in 2007, reaching a fully digitized public administration with advanced government-to-citizen and government-to-business service delivery and multichannel communication and transaction.

Source: E-participation index ©2012 UN E-government survey 2014

RECOMMENDATION 7: Establish a G20 governance mechanism to implement measures to improve the digital economy.

Reference	D7
Recommendation	Establish a G20 governance mechanism to implement measures to improve the digital economy
Owner	G20 governments, World Trade Organization, World Customs Organization, International Trade Center, World Bank, OECD, the Global Commission on Internet Governance and the relevant engagement groups
Timing	2015 Antalya G20 Summit
Source	Collaborative recommendation

The recommendations made by B20 can begin to spark a new consensus among G20 members, multilateral development banks and international organizations that would guide nations on acceptable digital economy behaviors that would, in turn, pave the way toward Internet-based globalization. Just like the nature of the Internet, this new consensus should develop via a bottom-up process, of course predicated on open discussion. However, political leadership is critical to move us towards this new consensus.

To initiate this move, B20 recommends that a formal group should start exploring where the G20's particular areas of competence and authority can contribute positively to Internet governance. It would be best if this group is tasked by the G20 leaders in Antalya to submit their assessment at the G20 China summit in 2016.

B20 recommends that the G20 governments start a study group, with the inclusion of the World Trade Organization, World Customs Organization, International Trade Center, World Bank, OECD, the Global Commission on Internet Governance and the relevant engagement groups including B20 and T20, to study the issues and recommendations put forward in this paper and submit a comprehensive report that reflects multi-stakeholder views to the next G20 summit in China in 2016. In accordance with the proceedings of the study group, we expect the G20 to streamline the relevant issues to their respective working groups and other platforms as priority areas.

Conclusion

Today, it is indisputable that widespread adoption of digital technologies can accelerate competitiveness by creating opportunities for productivity, innovation, and growth. Governments need to act now to convert digital potential into growth, across all sectors of the economy, by creating the right conditions for businesses to invest all along the value chain of the digital ecosystem. While many actions can be taken by G20 governments at a national level, coming to grips with the global, borderless, complex, and evolving nature of the Internet will require coordinated actions by G20 governments to build digital trust and create the right Internet governance model. Therefore, it is important for countries that assume the B20 presidency in the future to continue to focus on the theme "digital" and its initiatives.

APPENDIX: B20 Turkey Digital Economy Forum Speakers List

Ahmet Hasanbeşoğlu, Executive Director of EMEIA Digital Advisory Services, Ernst&Young

Benjamin Brake, Director Government and Regulatory Affairs, IBM

Bernard J. Dunn, President-Middle East, Boeing

Çiğdem Ertem, Middle East Turkey and Africa Regional Director, Intel

Colins Jeavons, Founder, Nntent

Doron Avni, Director of Public Policy & Govt. Relations, Middle East, Africa, Israel, Turkey, Google

Elizabeth Thomas-Raynaud, Project Director, International Chamber of Commerce

Enrique Medina, Chief Policy Officer, Telefonica,

Erdoğan Çeşmeli, Executive Director of Strategic Investments in Turkey, General Electric

Eric H. Loeb, VP-International External and Regulatory Affairs, AT&T Services, Inc.

Faruk Eczacıbaşı, Chairman, Digital Turkey Platform

Ferruh Gürtas, Corporate Affairs Director of Middle East, Turkey and Africa, Intel

Francis Hintermann, Global Managing Director, Accenture Research

Gökhan Öğüt, CEO, Vodafone Turkey

Gönenç Gürkaynak, Managing Partner, ELIG

Ilias Chantzos, Senior Director of Government Affairs, Europe, Middle East and Africa, Symantec Corporation

Joseph H. Alhadeff, VP of Global Public Policy; Chair of Commission on Digital Economy, Oracle

Kıvanç Onan, MENA and Turkey Regional Director, PayPal

Luigi Gambardella, VP, Relations with International Institutions and Organizations, Telecom Italia

Nikolaus Lindner, Director Government Relations, eBay Corporate Services GmbH

Rupert Duchesne, Group Chief Executive, Aimia Inc.

Samuel Salloum, CEO, GCEL

Santhosh Kumar Madathil, Chief Technologist and General Manager, Wipro Ltd.

Serdar Urçar, Director of Sales for MENA, Hewlett Packard

Simon Milner, Policy Director for UK, Turkey, Middle East and Africa, Facebook

Sinead McSweeney, Senior Director, Public Policy EMEA, Twitter International Company

Tolga Ulutaş, CEO, Accenture Turkey

Turan Erdoğan, CEO, Vestel

Yasin Beceni, Managing Partner, BTS & Partners