



Transforming the ICT sector in Saudi Arabia through foreign direct investment

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Executive summary

Saudi Arabia has high ambitions for the information and communication technology (ICT) sector, setting a target to increase its contribution to GDP by 1 percent between 2017 and 2023.¹ It is expected that most of this growth will be driven by the information technology (IT) and emerging technology sub-sector. Inward foreign direct investment (FDI) is essential to this expansion of the KSA IT sub-sector. It not only brings in capital, but also has a host of positive ripple effects such as access to technology, management know-how, jobs and entry to new markets. However, KSA faces multiple challenges in attracting FDI, including competition from developed countries, lack of technologically advanced local companies for partnership/acquisition, and lack of geographical focus in the sector. All of these are compounded by an acute shortage of skilled ICT workforce.

To overcome these challenges, regulatory changes have been made, such as policies from MISA that create a level playing field for investments between foreign and domestic companies, Capital Markets Authority's (CMA) removal of the 49 percent ownership limit² for foreign investors, and MCIT's launch of an ambitious national ICT strategy. However, to ramp up Saudi Arabia's current efforts to meet its ambitious FDI in ICT target, there is a need for a transformative approach that covers different elements of the FDI cycle. KSA should focus on measures such as strengthening data protection regulations, enabling infrastructure cluster development, nurturing and attracting ICT talent, and incubating SMEs/start-ups, all while leveraging KSA's Vision 2030 to attract potential investors.

From the point of view of foreign investors looking at KSA, there is an active ICT market with business opportunities in emerging technologies. However, as the sector is relatively new, they must be wary of certain hurdles, which can be overcome by working together with the government. Ultimately, investors need to decide whether to embrace the opportunities available now, weighing these against the risks of operating in a nascent but fast-developing ecosystem.

¹ MCIT ICT strategy 2017-2023

² Invest Saudi Investment highlights, 2019



1. FDI to help deliver KSA’s ambitious ICT targets

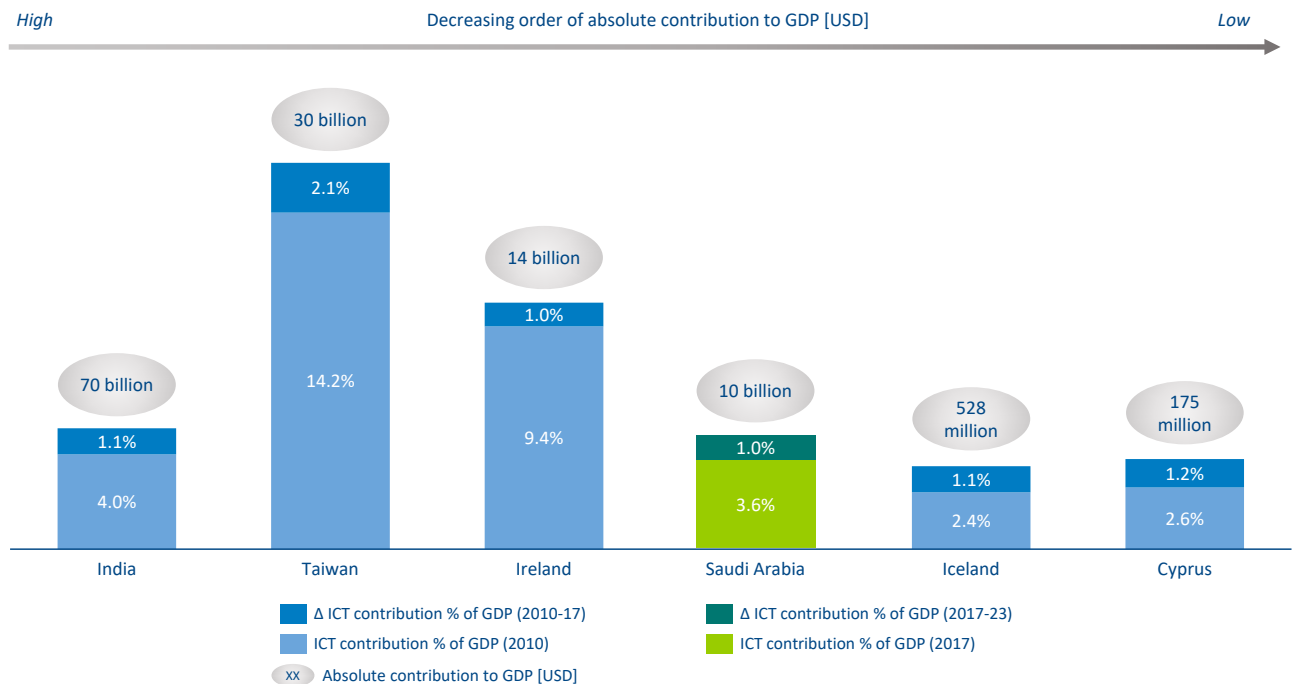
1.1 A grand vision

As part of Vision 2030, KSA has set a bold target to grow the ICT sector’s contribution to GDP from 3.6 percent in 2017 to 4.6 percent in 2023³ – an increase of approximately SAR 40 billion. In recent times,⁴ only five countries have been able to improve their ICT sectors’ contributions to GDP by 1-2⁵ percentage points over similar time frames (see Figure 1). KSA’s overall target is actually more daunting due to the telecommunications sub-sector’s revenues reducing by 3 percent annually between 2014 and 2018. If this trend continues, the IT and Emerging technology sub-sector will have to drive the majority of growth necessary to hit the overall ICT target. This implies that it will have to grow at a compound annual growth rate (CAGR) of approximately 6 percent between 2017 and 2023, approximately 150 percent of its current value⁶ to reach SAR 61 billion⁷ by 2023.

1.2 External support through foreign investment

The rapid growth would require KSA’s IT sub-sector to reduce its reliance on imports, so that it would capture greater value from current local IT spend, as well as increasing its exports. A thriving local industry with significant presence across the value chain is essential to this, specifically in the early steps when economic value addition is higher (see Figure 2). In order to drive this IT sub-sector growth, multiple factors need to come together, including capital, intellectual property/access to advanced technologies, availability of skilled resources, and access to markets.

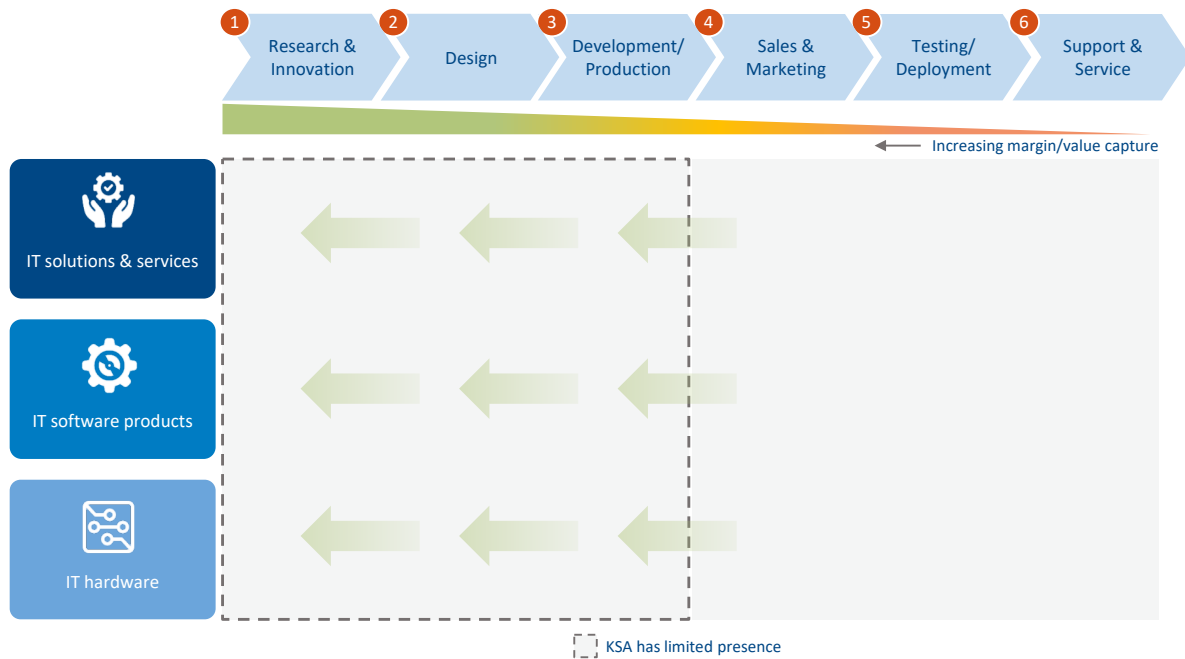
Figure 1: KSA’s ICT sectoral growth target with respect to ICT high performers (in the last decade)



Source: Digital Economy Report 2019, UNCTAD, Arthur D. Little analysis

3 MCIT ICT strategy 2017-2023, KSA’s ICT sector growth between SAR 93 billion and SAR 134 billion
 4 2010-2017
 5 Digital Economy Report 2019, UNCTAD
 6 SAR 43 billion as per MCIT ICT strategy 2017-2023
 7 MCIT ICT strategy 2017-2023

Figure 2: Evolution towards higher value addition for IT sub-sector

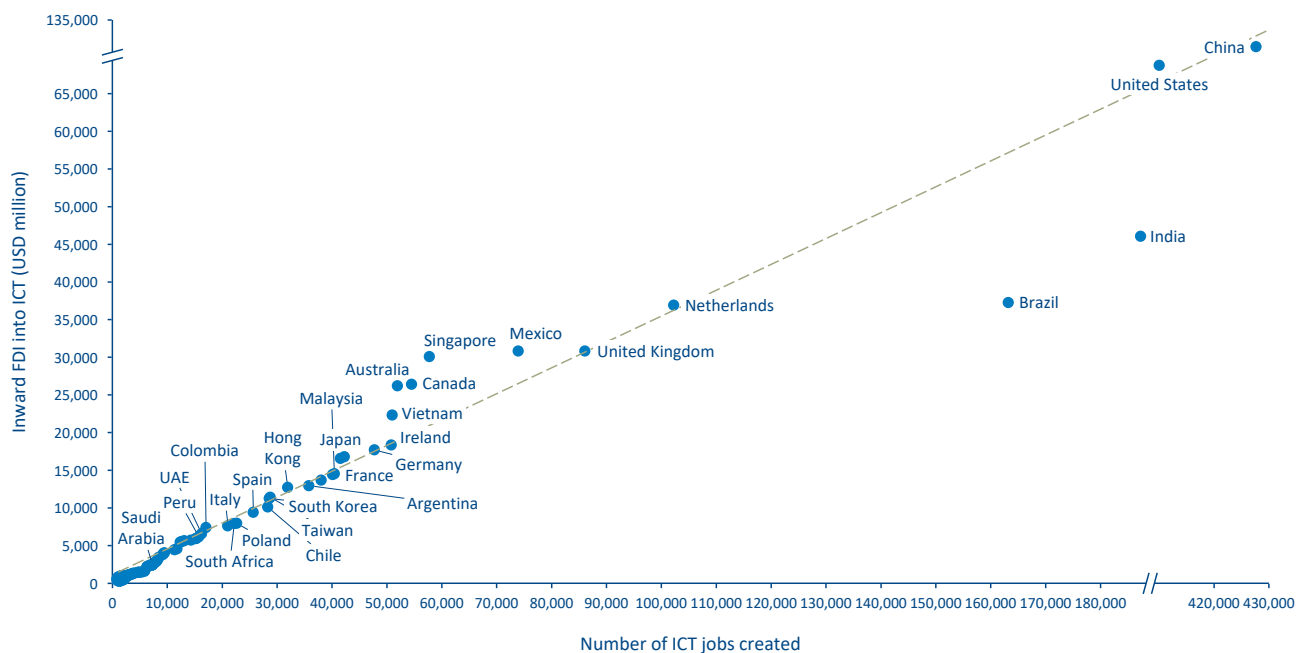


Source: Arthur D. Little analysis

Inward FDI is known to be a catalyst for industry growth, as it not only brings in capital, but also introduces a host of positive ripple effects, such as access to technology, management know-how, jobs, and entry to new markets. All of these could accelerate development. Additionally, FDI benefits the economy

through direct knowledge transfer from investing companies to local partners. Globally, a strong correlation between inward FDI into the ICT sector and its development⁸ can be seen, resulting in an average job-to-investment multiple of 3.0⁹ and a regression coefficient of approximately 0.85 (see Figure 3).

Figure 3: Correlation between FDI inflows into ICT with the number of ICT jobs created



Source: fDi intelligence, Arthur D. Little analysis
 Note: Each data point is cumulative data from 2010-2019

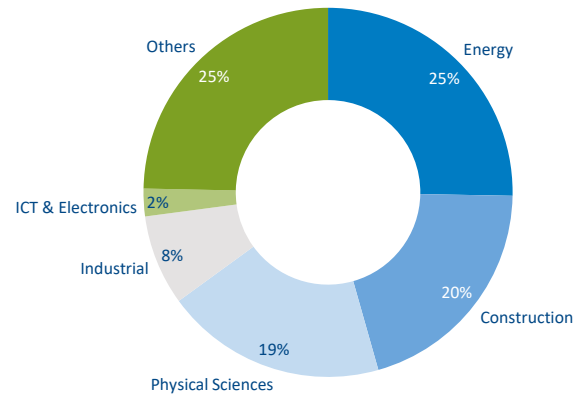
8 Number of jobs created is a proxy for sector development
 9 Three jobs for every USD million invested

1.3 The status of FDI¹⁰ in KSA's ICT sector

The underdevelopment of KSA's ICT sector is potentially due to relatively limited focus from the government, which is now changing. It also attracts lower investments compared to other parts of the economy. Between January 2010 and September 2019, approximately 97 percent of cumulative FDI inflows were in non-ICT sectors, with the top four being energy, construction, physical sciences and industrial¹¹ (see Figure 4). Even among the roughly 3 percent¹¹ of total FDI invested in the ICT sector, the primary focus has been on low-value steps along the value chain, such as usage (installation and deployment), rather than design, testing or development. Out of this 3 percent, approximately 75 percent¹¹ have focused on business activities including sales & marketing, deployment and support services, with just 10 percent¹¹ involving design, development and testing.

Attracting foreign investment into KSA's ICT sector could also be challenging, considering the global decline in FDI inflows and the high dependence of KSA on the US for inward FDI. Globally, FDI has been declining over the last three years (see Figure 5). This trend has primarily been driven by US tax reforms, which have led to US MNEs repatriating more foreign earnings. This presents a major risk for KSA as approximately 30 percent¹¹ of cumulative ICT FDI inflows between 2010 and 2019 were sourced in the US, placing high dependency on one source country.

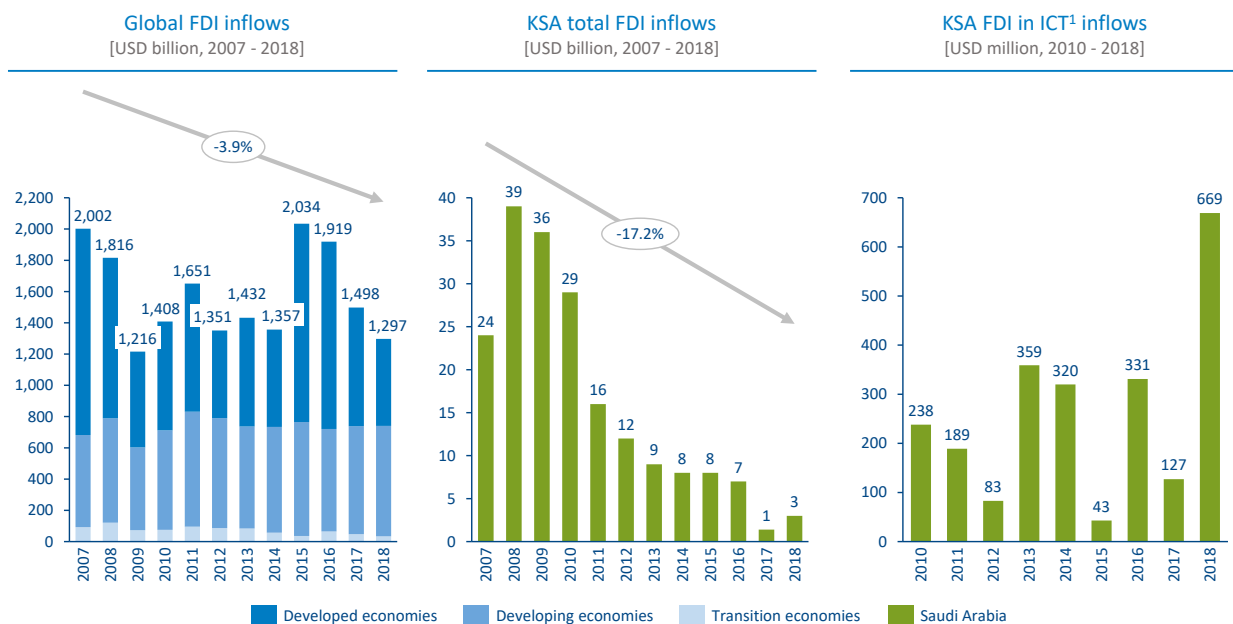
Figure 4: KSA's FDI inflows in ICT split by sectors



Source: fDi intelligence, Arthur D. Little analysis
 Note: Each data point is cumulative data from 2010-2019
 FDI inflows by sectors [%]

The sharp reduction in KSA's total FDI inflows (approximately 85 percent) and FDI in ICT inflows (approximately 60 percent¹¹) in 2017 shows the impact of global trends.

Figure 5: Global and KSA FDI inflows from 2007 to 2018



Source: UNCTAD, fDi intelligence, Arthur D. Little analysis (2019)
 1. Cross-border greenfield investment inflows, fDi intelligence

¹⁰ FDI inflows only consider cross-border greenfield investments
¹¹ Cross-border greenfield investment inflows, fDi Intelligence



2. Attracting FDI into KSA’s ICT sector is challenging

Alongside the global decline in FDI, KSA faces multiple challenges in attracting foreign direct ICT investment:

1. Stiff competition from developed countries.
2. The lack of technologically advanced local companies for partnership or acquisition.
3. A lack of geographical focus.
4. Limited availability of a skilled ICT workforce.

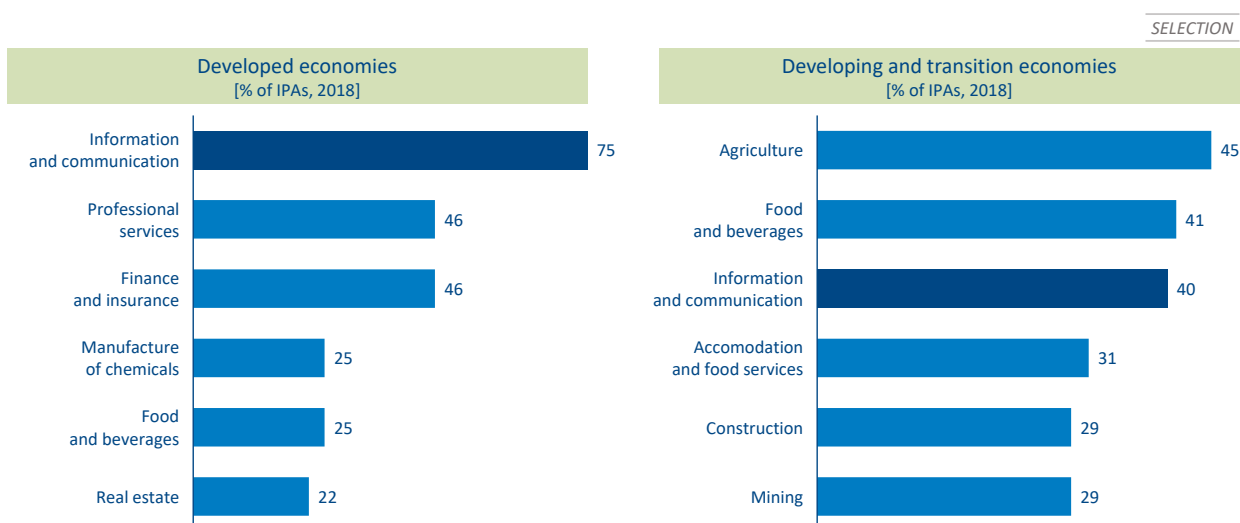
Stiff competition from developed countries

Attracting ICT FDI is a key focus for developed economies, which makes it harder for developing and transition¹² economies to compete. Three-quarters (75 percent) of investor promotion agencies (IPAs) in developed countries ranked ICT as the most promising route to attracting FDI. By contrast, it ranks as the third preference among developing and transition economies (see Figure 6).

As KSA is a developing economy that is primarily known for its focus on oil and gas, it will have to reposition itself effectively to be visible on the radars of ICT investors. Additionally, it must compete with other governments and US states that incentivize infrastructure investments such as data centers:

- Alabama offers up to 30 years of tax breaks for data center investments of USD 400 million that create at least 20 jobs with average annual salaries of USD 40,000.
- Data centers of 25,000 square feet plus that cost at least USD 30 million receive 20-year exemptions from sales taxes on equipment and energy, as well as permanent property tax exemptions on equipment, in Minnesota.
- In Finland, large-scale data centers using over 5 MW of power have enjoyed lower energy tax rates since April 2014,¹³ which brings this down to 0.703 cents per kWh.

Figure 6: Investor promotion agencies’ selection of most promising industries for attracting FDI in their own economies, by region, 2018



Source: Arthur D. Little analysis (2019)

12 Transition economies (as classified by the World Bank) have characteristics that could place them in either the developing or developed categories, and so have their own independent classification

13 Invest in Finland; https://www.bergmann.fi/e/article/finland_as_a_data_center_location, paragraph 2

Lack of technologically advanced local companies for partnership or acquisition

MNEs typically enter markets either by partnering with, or acquiring, local companies with specific capabilities. However, this is difficult in KSA due to a lack of such businesses, with the few domestic IT firms having limited technological capabilities. The dearth of quality targets is demonstrated by the fact that only 15 percent¹⁴ of local start-ups are in “deep tech”¹⁵ sectors – compared to a global average of 45 percent.

Limited attractiveness of government policies towards MNEs

In KSA, there have been instances of foreign companies facing non-tariff discrimination barriers. These include limitations on bidding for government contracts based on company “classification”¹⁶ requirements and restrictions on foreign ownership. This forces MNEs to continue offering their services from outside KSA instead of setting up local presences. To overcome this, MISA has started instituting investment policies that aim to create a level playing field between foreign and domestic companies.

Limited geographical focus and concentration

KSA has aimed to undertake large-scale country-wide “smartification” projects, for example, NEOM, Red Sea project and Amaala along the western coast, SPARK in the east and inland projects such as Qiddiya, Waad Alshamal and Al Ula. This provides a great opportunity for distributed ICT development, which is known to contribute to socio-economic growth, but it limits the network effect benefits from clustering similar businesses in the same area. In contrast to KSA, where ICT activities are fragmented across the Kingdom, India has focused its efforts on ensuring that a single city (Bangalore) serves as the technology hub for the entire country. The result is that Bangalore is the fourth-largest technology cluster in the world and has reaped the benefits of geographic concentration and focus.

Limited availability of skilled ICT workforce

KSA faces challenges in both growing the local ICT workforce and attracting foreign talent. Additionally, it is difficult to find domestic talent with ICT-related skills in emerging and transformational technologies such as cloud, mobility and security.¹⁷ The local skills gap is compounded by its inability to attract foreign talent.

¹⁴ Arthur D. Little analysis of 350 KSA technology start-ups

¹⁵ Start-up companies that are based on substantial scientific advances and high-tech engineering innovation

¹⁶ Certificate required to bid for government contracts

3. Overcoming the challenges in attracting FDI

3.1 Ongoing and recently introduced measures

SAGIA, CMA, MCIT and other government entities have been making efforts to overcome the challenges to attracting FDI into the ICT sector. Some recent measures include:

- Equal treatment for foreign companies – MISA has removed several industries¹⁷ from the “negative list” that limits activities to wholly Saudi-owned companies. It has also adopted guiding principles for investment policymaking, built on the concept of equality between local and foreign investors in companies listed on the Saudi stock exchange (Tadawul).
- Permitting foreign ownership – CMA has removed the 49 percent upper ownership limit for foreign strategic investors.
- National ICT strategy development – MCIT has developed the national ICT strategy for 2023. This highlights multiple initiatives to achieve the broad objectives of improving the effectiveness of the telecommunications market, growing the IT and emerging technology market, and increasing local content. Some of these initiatives will indirectly help FDI inflows.
- Other reforms – In early 2019, multiple reforms were introduced. These included establishment of the National Center of Competitiveness; introduction of the premium residency system, which provides the right to open a business with 100 percent ownership, trade on the stock market, and own real estate, for example; and halving of the number of licenses required for investment purposes by the national licensing and reform program.

3.2 Strengthening the virtuous cycle for FDI in KSA

To increase existing measures to attract FDI to the ICT sector and bridge gaps, a comprehensive transformational strategy should be deployed (see Figure 7). Each of the elements within this strategy reinforce each other, creating a virtuous cycle. This will ensure that a favorable business climate is maintained by introducing targeted policies to address pain points, while helping KSA differentiate from its regional neighbors by leveraging Vision 2030. Finally, this transformational story should be communicated effectively to all stakeholders, and then constantly monitored and reviewed based on the speed of progress. Overall, effective implementation of the strategy will be a key step in KSA achieving its ambitious target of attracting SAR 3 billion FDI in the ICT sector by 2023.

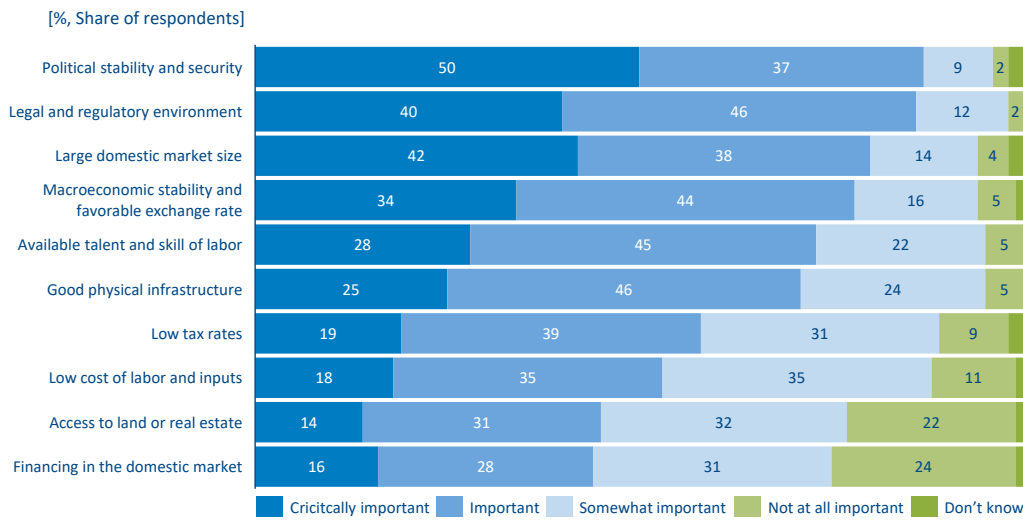
Figure 7: The reinforcing FDI virtuous cycle



Source: Arthur D. Little analysis

¹⁷ Recruitment and employment services, real estate brokerage, audiovisual and media services, and land transport services

Figure 8: Factors affecting investment decisions



Source: World Bank, Arthur D. Little analysis

3.3 Maintaining a favorable business climate

According to World Bank analysis, investors consider a broad range of factors when deciding whether to invest in a country. Political stability, a business-friendly legal and regulatory environment, optimal domestic market size, and macroeconomic stability are fundamental factors¹⁸ in their decision making. When these factors are not present, it feeds into higher calculations of risk, which deters private investments (see Figure 8).

Saudi Arabia does well with most of the important factors – it is a politically stable country with a large domestic market and reasonable macroeconomic stability through low inflation and a steady currency. But it has yet to make improvements in developing a regulatory environment that is favorable to ICT. KSA therefore needs to make substantial improvements to strengthen regulations that impact digitization (such as data and IP protection laws), as well as introduce the regulatory groundwork that will enable early and efficient adoption of emerging technologies. For example, Singapore has created a maritime drone-testing area that provides an incubator for their potential application.¹⁹ Additionally, to counter the trend for falling FDI in telecommunications,²⁰ there is a need to develop a regulatory regime that incentivizes foreign investors, such as by removing restrictions on foreign ownership and easing access to licenses, as well as making wholesale infrastructure available at competitive prices.

3.4 Leveraging Vision 2030 for attracting FDI

Several countries have built successful ICT strategies that differentiate them globally by leading in at least one dimension:

- A specific step in the ICT value chain (for example, manufacturing or testing) – e.g., Taiwan in high-tech manufacturing.
- A sub-sector (for example, telecommunications or IT hardware/software) – e.g., India in IT software.
- A sector enabler (for example, talent availability or e-governance) – e.g., India with its abundant supply of skilled IT professionals, Estonia as an e-government powerhouse.
- KSA currently does not have an obvious strong focus area. However, Vision 2030 provides potential new opportunities to strengthen KSA's ICT value proposition for foreign investors.

India leveraged its abundant supply of skilled IT professionals to develop a leading IT industry that now comprises approximately 75 percent of global digital talent, according to NASSCOM. It is also the largest global offshoring destination for IT companies and accounts for over 30 percent of the worldwide outsourced business process management (BPM) market. India began its emergence by offering cheap and abundant IT skills. However, by 2018 most job creation had progressed to the early steps of the ICT value chain. Top technology companies have invested heavily in India, with Microsoft basing its largest R&D facilities outside the US in the country, and Cisco creating its biggest non-US global development center there.

18 World Bank Global Investment Competitiveness survey

19 Maritime Port Authority of Singapore

20 fDi Intelligence

As part of Vision 2030's goals around promoting ICT development, the Kingdom plans to focus on emerging technologies (such as artificial intelligence, blockchain, the IoT, 3D printing, robotics and automation) and enable rapid rollout of mega-projects (such as NEOM, Redsea, Qidiya, Waad Alshamal and SPARK) by providing end-to-end ICT infrastructure. KSA has significant planned budgetary spends, including ICT expenditure of approximately SAR 170 billion.²¹ The country can leverage these opportunities to attract FDI in emerging technologies and smart city development.

In conjunction with this, KSA can utilize its geographical position to its advantage. It has access to international connectivity through the Red Sea and the Gulf, and is centrally located to serve Europe, Asia and Africa. This position could assist the Kingdom in leveraging its existing strengths in cloud technology to become a hub for cloud services. It is ranked highly²² on cloud competitiveness in the MENA region, currently is the leader on cloud-related cybersecurity components, and has many forward-looking initiatives such as BADIR,²³ MAEEN²⁴ and SAFCSIP.²⁵ It is also supported by a competitive cloud regulatory environment – KSA is the only country in the region to have a cloud computing regulatory framework, which was published in 2018 by the Communications and Information Technology Commission.

3.5 Implementing policy reforms

The government has taken recent measures to improve the business environment. However, bolder, coherent policy reforms are needed, specifically on the topics of infrastructure clustering, talent development, access to government contracts, incubation of tech start-ups/SMEs, and demand consolidation.

- **Infrastructure clustering** – An overall national-level vision around ICT parks and zones would avoid fragmentation of supply and demand. There is a strong case for supporting geographic specialization around emerging technologies:
 - Jeddah could leverage King Abdullah University of Science and Technology (KAUST) to become a focal point for attracting FDI in deep-tech.
 - Dammam could leverage Aramco to specialize in industrial Internet of Things (IIoT).
 - Riyadh could become a hub for advancements in e-governance technology that convert public services into flexible e-solutions for its citizens.

- Al Ula could leverage artificial intelligence to improve customer experience specifically in the tourism industry in an area packed with historic sights.

It is imperative that special economic zones (SEZs), such as free or export zones, are created in areas that appeal to investors such as Riyadh, Makkah and the Eastern province.²⁶ These should include research and development infrastructure and test facilities for development and adoption of emerging technologies, with initiatives established to drive industry-academic collaborative R&D with emphasis on innovation, products, patents and IP. The network effects of such clustering are clear in the example of Bangalore in India. This city has become the country's largest software exporter, is home to the largest number of start-ups and R&D centers in the country and is the base for 75 percent of India's pool of 2.5 million IT professionals.

- **ICT talent base** – Developing the domestic ICT talent base and attracting skilled expatriates is crucial if KSA is to achieve its ambitions. Domestic talent can be developed in the long term by investing in increasing the capacity and quality of ICT education at primary, secondary and tertiary levels, as well as in vocational and technical training. For the short- to medium term, industry partnerships with academic institutes are needed to train the workforce in required skills. KSA has taken a step in the right direction by initiating 22 new ICT programs in Saudi universities, a Saudi digital academy, a National Information Technology academy, and the Saudi Federation for Cyber Security, Programming and Drones.²⁷ To attract skilled expatriates, it is important to develop favorable working conditions.

For example, Canada addressed the challenge of developing domestic talent through multiple initiatives, such as capacity-building programs led by the Communications and Technology Council. Other best-in-class schemes include:

- CyberTitan, an annual cybersecurity contest for middle and secondary school students.
- A Digital Skills Passport to help students track the digital skills they have acquired.
- Focus on Information Technology, a nationally recognized certificate program developed by top ICT educators and employers for secondary school students.

21 Invest Saudi Investment highlights, 2019

22 MENA Cloud Competitiveness report, 2019

23 Program for technology incubator

24 Saudi Research and Innovation Network

25 The Saudi Federation for Cyber Security and Programming

26 Cross-border greenfield investment inflows, fDi Intelligence

27 Invest Saudi Investment highlights, 2019

- The Work-Integrated Learning program, which provides digital-economy placements for post-secondary students, giving them hands-on work experience, in return for employer subsidies.
- Career Connect, which subsidizes the employment of recent ICT graduates.

For example, UAE and Singapore have launched programs in 2019 to attract international talent:

- The UAE government provides long-term visas to founders (and up to three executives) of technology start-ups from around the world.
- Singapore’s Tech@SG is a two-year pilot initiative created in collaboration between the Economic Development Board and Enterprise Singapore. This aims to attract talent in frontier technologies such as data science, AI, cybersecurity and the IoT by reducing requirements for employment pass holders.

- **Access to government contracts** – Apart from easing the overall business environment, the entry barriers for MNEs should be reduced to ensure a level playing field in terms of access to attractive government contracts. The current government classification system makes it difficult to win these contracts, which provide opportunities for MNEs to scale up, hence dissuading them from expanding in KSA.
- **Incubation ecosystem for SMEs and start-ups** – SMEs and start-ups in emerging technologies must be provided with a comprehensive scale-up/incubation ecosystem that offers a portfolio of services encompassing education and training, coaching and mentoring, financial support, office space and equipment, marketing and promotion, and legal support. This would avoid the need for business owners to move between multiple entities to achieve the complete support required to scale up their operations. Facilitating partnerships between foreign investors and domestic SMEs would create a win-win situation for both parties, as the investor would benefit from the SME’s local knowledge, while the SME would learn from the best practices brought by the investor. For example, in the UK, the Start Up Loans scheme provides loans of up to approximately USD 30,000 at a fixed interest rate of six percent per annum for those with new business ideas. Additionally, successful applicants receive guidance on writing business plans and up to 12 months of free mentoring.

- **Consolidation of demand** – KSA should utilize its high local demand to improve investments across the ICT value chain. This could be done by proactively pursuing large FDI deals that require KSA to commit large financial resources, either directly through incentives or indirectly through long-term commitments, such as procuring services from preferred vendors over long periods. A good example of this is in the KSA healthcare industry, where it is common for group purchasing organizations such as the National Unified Procurement Company to collaborate and establish joint supplier agreements. In addition to supplier agreements in areas such as high-tech medical equipment, agencies such as MISA have negotiated directly with international suppliers, which has led them to establish manufacturing facilities in the country.

3.6 Communicating Saudi Arabia’s transformational story

KSA is presently undergoing one of the swiftest business transformations in the world, earning itself a spot in the top 10 list of countries for improving the climate for business.²⁸ With many countries competing for ICT FDI, it is important to more effectively communicate this transformational story internationally.

Currently KSA lags behind its GCC neighbors in marketing and communication of its ICT sector, all of which have been promoting themselves as attractive ICT destinations through published reports/websites, such as:

- Seize the potential. Invest in Bahrain for ICT (Bahrain’s Economic Development Board).
- Kuwait: An International ICT Hub (Kuwait’s Communications & Information Technology Regulatory Authority).
- Dubai ICT guide – a Hub for Innovation and Technology (Dubai Government); <https://u.ae/en/about-the-uae/the-uae-government/government-of-future/innovation-in-the-uae>.

KSA should leverage both “push marketing,” to directly approach specific investors, and “pull marketing,” to indirectly attract this audience. Its communication strategy should include multiple targeted marketing activities, including conferences/seminars run by government agencies and regional associations such as the Saudi-Jordanian ICT Forum and the Arab ITU Association, as well as G20 conferences on topics that showcase its progressive ICT investment ecosystem. A dedicated function or entity focused on designing and executing ICT investment promotion campaigns should therefore be created.

²⁸ World Bank Group’s Doing Business 2020 report

4. What does this mean for potential investors?

It is vital to frame discussion of FDI in KSA's ICT sector from the perspective of potential foreign investors. So, what could a potential investor expect over the next few years?

They should expect to see an active market with many business opportunities arising from Vision 2030, around areas such as AI, blockchain and smart cities, given current ambitions and plans. Initial steps have been taken to increase participation from foreign companies, as seen by MISA's creation of specific principles for investment policymaking. Early entrants may have the pick of both projects and partners. Additionally, given KSA's position at the center of the Arabian Peninsula, investors can potentially access opportunities in neighboring markets.

The government has been working to improve the business environment and, as with every introduction of new processes and systems, minor issues can be expected. Therefore, investors should plan to work closely with the government to smooth out any problems and therefore pave the way for creation of a best-in-class business environment.

Capability development is an area where investors would have to spend additional effort. While the government has taken initiatives to build the capabilities of individuals and local companies, these are typically long-term processes. In the short term, investors would have to take the lead in terms of sharing their knowledge and training local resources and partner firms, helping them to learn and adopt industry standard best practices. Large investors could also influence their suppliers to join them in KSA, as that would improve their operating environments through better collaboration and lower costs. This would also naturally lead to creation of specific geographic clusters in the country.

Given the considerations listed above, investors would need to choose. Should they plunge into the market and work together with the government to resolve any obstacles that may arise, or adopt a watching brief? Given the plethora of opportunities available, they should make their decisions by balancing the prospects against the risks of operating in a nascent but fast-developing ecosystem.



Abbreviations

CAGR – Compound Annual Growth Rate

CITC – Communications and Information Technology Commission

CMA – Capital Markets Authority

FDI – Foreign Direct Investment

GCC – Gulf Cooperation Council

GDP – Gross Domestic Product

ICT – Information and Communication Technology

IoT – Internet of Things

IPA – Investor Promotion Agency

IT – Information Technology

KAUST – King Abdullah University of Science and Technology

KSA – Kingdom of Saudi Arabia

R&D – Research and Development

MCIT – Ministry of Communications and Information Technology

MENA – Middle East and North Africa

MISA – Ministry of Investment of Saudi Arabia

MNE – Multinational Enterprise

NASSCOM – National Association of Software and Services Companies

SEZ – Special Economic Zones

SME – Small and Medium Enterprises

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