LightCastle Partners

Anniversary Edition

LightCastle Featured Insights 2019

#datadriven #boostingeconomy
#changinglives #inspiringbusiness
#impact #analytics

About LightCastle Partners

At LightCastle, we focus on creating data-driven opportunities for growth and impact for our clients including Development Partners, Corporates, SMEs and Startups. Over the last six years, we have consulted for 100+ Corporates/Development Partners, 300+ SMEs/Startups and 20+ Accelerator Programs in multiple industries.


6
YEARS OF
DATA-DRIVEN
IMPACT

FOREWORD

This February we touched our 6th year anniversary – a feat that would not have been possible were it not for you. Thank you for being with us at LightCastle and relentlessly supporting us along our journey.

We started our journey in 2013 with a vision to inspire businesses in Bangladesh to take the economy forward. After six years we are still strong with our goal of **"Boosting Economy, Inspiring Businesses and Changing Lives".** We are working with full force to act on our mission of **"Creating Data-Driven opportunities for growth and lasting impact"** for our clients, partners and the economy as a whole.

2018 has been an interesting year for us for many reasons. On one hand we have continued to consult for meaningful engagements like figuring out how to accelerate financial inclusion and digitization in RMG/Textile sector to showcasing Bangladesh opportunity sector researches to Skills Gap Studies. Additionally, we have leveraged our in-house expertise for assisting our development sector partners with baseline, impact assessment and sector specific studies. We also continue to support our private sector clients to expand businesses in Bangladesh. Alongside, we have developed strong relationships with top-tier global consulting firms like PwC, KPMG and Ricardo Energy.

Alternatively, we have worked with Startups and SMEs in the space providing them with the same high quality consulting and opportunities that we provide our corporate and development clients. We are creating opportunities for women-owned enterprises to scale reaching out to 200+ small businesses. We have partnered with Venture Investment Partners Bangladesh and Syngenta Foundation for Sustainable Agriculture (SFSA) under the Business Finance for Poor Challenge fund to provide Ag-SMEs focused accelerator programs.

Finally, we acknowledge the significance of data and leveraging technology to collect, analyze and disseminate information. In an attempt to digitize data flow better, we have re-launched our LightCastle Data platform – that was recognized by Facebook as one of the top six innovations from Dhaka in 2016 – sourcing data using mobile devices from all over Bangladesh. We are also excited to launch our **"Data-on-Demand"** platform www.databd.co. DATABD.CO provides instant access to stories, industry profiles and data-sets on Bangladesh. We plan to make this the one-stop source for business data on Bangladesh.

We have also launched an Ag-focused data capture platform eFarmersHub with SFSA to collect farmer level inputs/produce purchase and sales data via a mobile light ERP. It's a start and we have around 70+ retailers now using this platform. We believe this digitization model will bring transparency and reduce information asymmetry in the sector and expedite industry growth.

We will continue to build on our motto of creating a data-driven culture and keep on making our industry insights available for all. We have planned to publish studies throughout the year including business sentiment surveys

and a Startup/SME Ecosystem report. You will be pleased to know we have recently entered into partnerships with Global Entrepreneurship Network (GEN) and i2i (Invest 2 Innovate) and will continue to work on our entrepreneurship ecosystem.

We believe the Bangladesh opportunity is exciting and will be driven by your goals and successes. That is why we plan to continue to support and partner with you and take the economy forward. We again thank you for all your support and look forward to doing great things together.

– Bijon Islam, Zahedul Amin and Ivdad Ahmed Khan Mojlish

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Boosting Economy

Bangladesh in the Post-industrial World

Bangladesh's economic performance, over the last decade, has garnered praise from the international community. Multilateral development agencies like the World Bank, often pinpoint Bangladesh as an exemplary case for economic development. From being termed a 'basket case,' – by the then US Secretary of State, Henry Kissinger, in early 1970s – to achieving continuously increasing GDP growth rates for the last 5 years, the country has come far. Forging ahead of Pakistan and growing neck-to-neck with India in economic terms has given the country renewed hope and confidence. However, at the onset of the third decade of the 21st century, the country faces several structural challenges potentially impeding the medium to long-term growth. These fault lines, if left unaddressed, can prove detrimental to the growth potential of the country.

Bangladesh's growth has been spearheaded by the apparel sector, which accounts for 83 percent of total export and 12 percent of GDP, placing the country as the second largest player in the global apparel market, after China. Remittances have also played a pivotal role in stabilizing BOP (Balance of Payments) conditions, generating USD 14.9 billion in terms of foreign currency inflow as of FY 2017-18. Although tertiary sector has the maximum GDP contribution (52 percent), theprimary sector — garnering only 18 percent of GDP — employs 47 percent of labor. Since majority of workers operating in the agriculture sector are essentially underemployed, government is keen on shifting bulk of these unproductive workers from primary to secondary sector. To this end, policymakers have adopted an industrialization strategy, aimed at maximizing benefits of the country's demographic dividend.

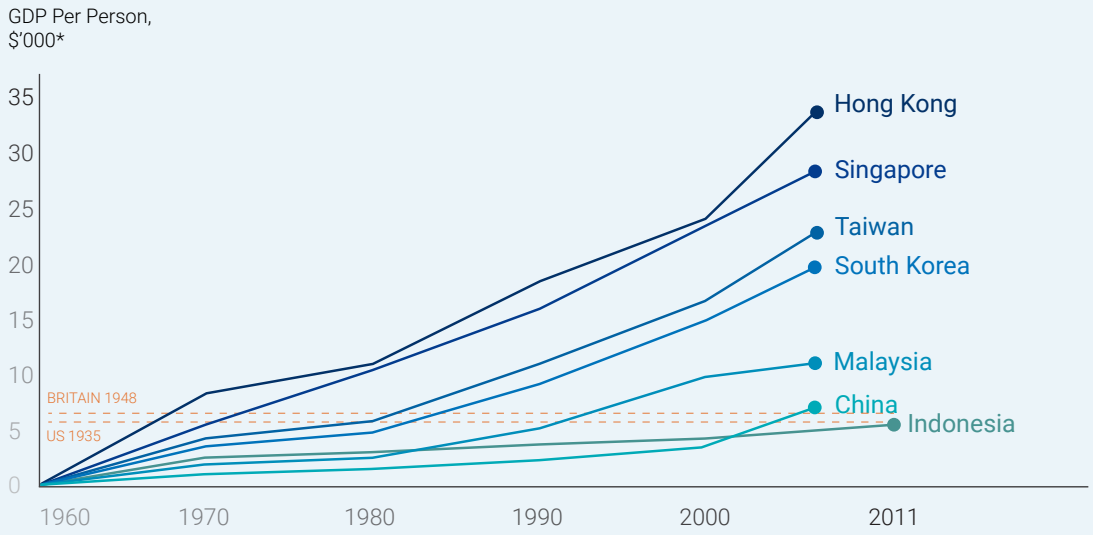
This has been a proven model for economic development and some of our Asian neighbors have directly benefitted from the manufacturing-led growth strategy.

Disruption of the Classical Growth Model

Over the last 60 years, economic growth for emerging countries has been driven by the secondary sector. This has been the experience of the original Asian Tiger economies – Taiwan, South Korea, Hong Kong and Singapore. Asian tiger cubs comprising of Indonesia, Malaysia, Philippines, Thailand and Vietnam have had similar experiences as well. Majority of the tiger economies had started off manufacturing low-margin products utilizing inexpensive labor, and then gradually shifting to production of high margin products. Some of the more successful economies like Japan and South Korea have eventually evolved into innovation and knowledge-driven economies, contributing to major innovations and launching global brands.

Developing economies like Bangladesh, Vietnam and Cambodia have been the main beneficiaries of this gradual shift in manufacturing. Since 1980s, South Korea and Taiwan have moved up the value chain, specializing in electronic components and consumer electronics manufacturing. As a result, low-margin apparel industry, requiring less skilled workforce, gradually shifted to countries like Bangladesh, India, Vietnam, Pakistan and China. China is following the same trend as South Korea and as labor costs are rising in China, there has been another wave of shift in manufacturing industry to cheaper destinations.

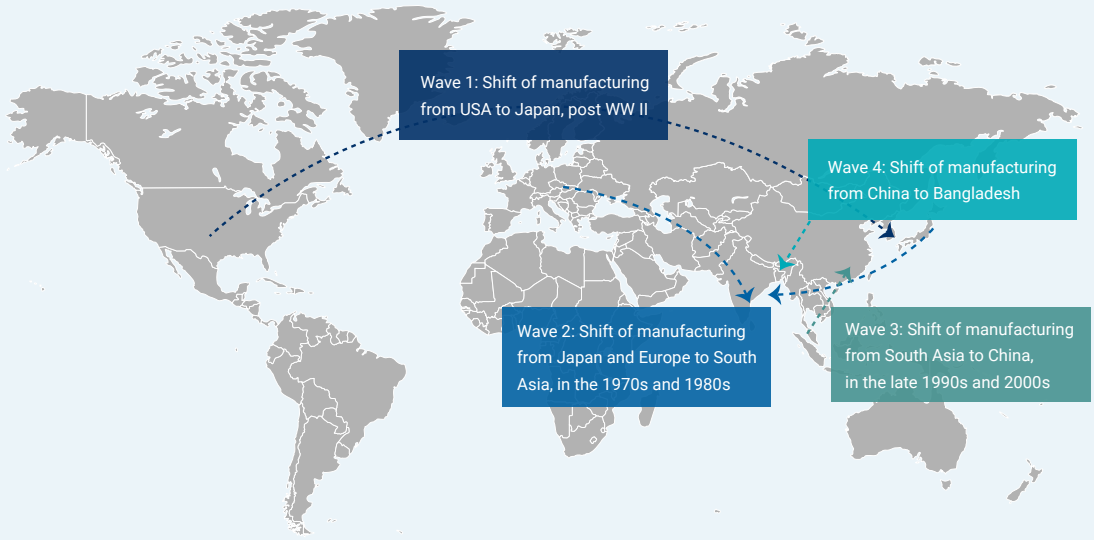
Per Capita GDP Growth Trend for Asian Tigers



Source: Angus Maddison; IMF

*1990 geary-Khamis Dollars

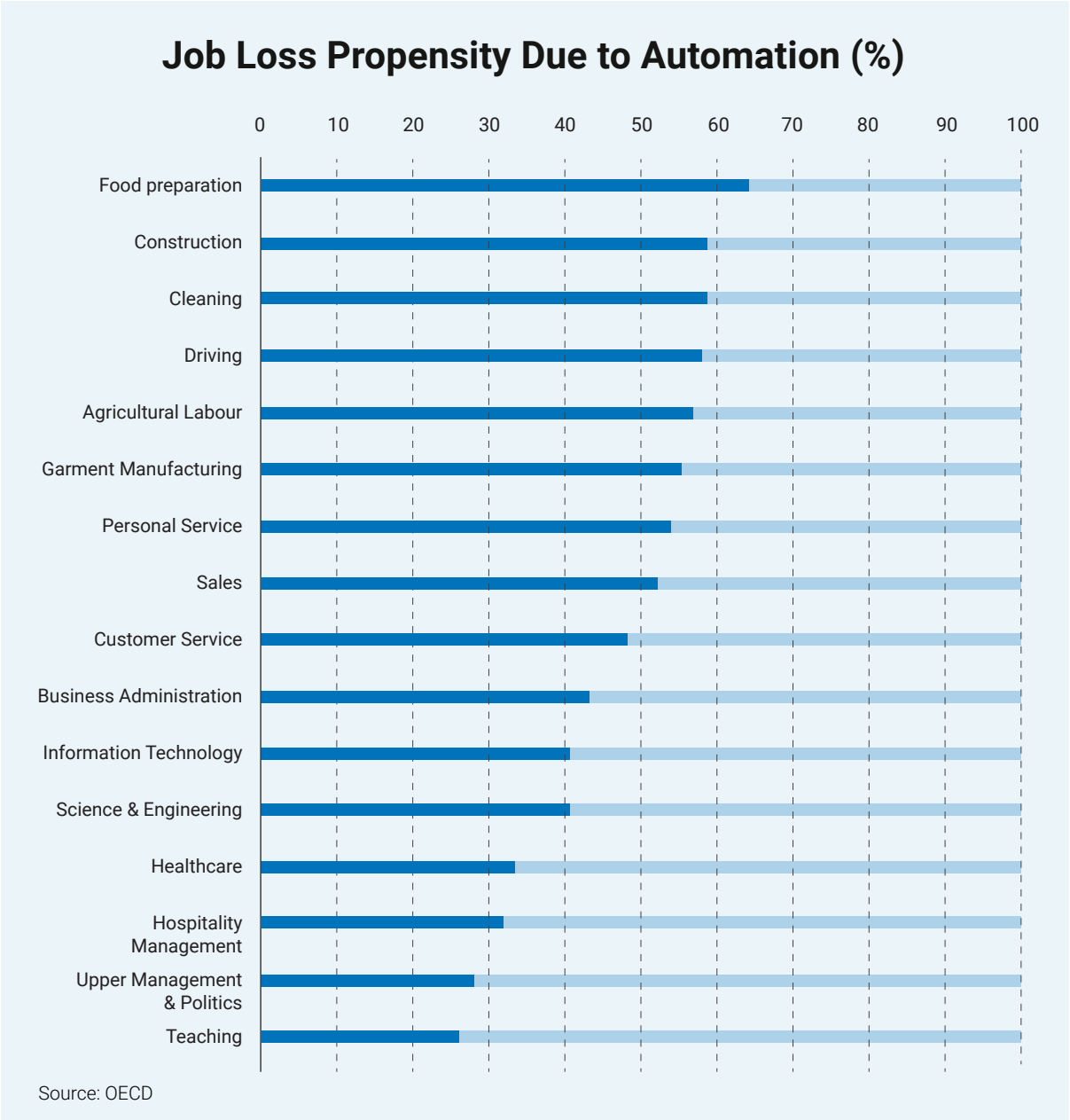
Shift in Manufacturing Capacity Across Regions



While many would expect Bangladesh to follow a similar trajectory of manufacturing-led growth like its South East Asian neighbors over the next decades, several technological shifts may prove inimical to future growth. In fact, the country's growth might cascade downwards towards the negative if we fail to undertake precautionary actions.

A Tectonic Shift in the Technological Landscape

The 21st century has paved the way for automation due to growing prowess of processors. Due to technology becoming more ubiquitous in all spheres of our lives and internet connecting us all together in a common web, we have increasingly become more interdependent. Internet of Things, also known as IoT, is a network of interconnected smart devices that allow each separate device to interact (i.e. send or receive data) from other devices on the network. As IoT becomes more mainstream, more data would be accessible for making increasingly better decisions, eventually replicating and then surpassing human intelligence. Super computers like Watson have already surpassed human capabilities in certain areas, and with adequate supply of real-time data, many computers would have the ability to engage in machine learning to make better decisions. The medium term impact of the 4th industrial revolution would be in terms of loss of jobs.



According to The Economist, 50% of jobs are vulnerable to automation. However, some industries would be more prone to automation, particularly for the sectors with repetitive jobs, where AI-powered robots would easily replace humans. The OECD released a list showing the likelihood of roles, within specific industries, becoming obsolete or automated.

The apparel sector jobs have high risk of getting automated, which will significantly curtail the cost competitiveness of Bangladeshi apparel. Many investors will opt for automation in place of more troublesome human workers if the initial investment can be justified for automating operations. Many international apparel buyers would also prefer purchasing apparel either from their own country or from a country closer to their markets as labor costs become irrelevant. A number of apparel manu facturers have already setup fully automated factories armedwith Sewbots, which can independently sew clothes based on specific instructions. Automated factories require 70-80 percent less number of workers compared to comparable semi-automated factories.

A human sewing line can produce up to 669 t-shirts in 8 hours, while a sewbot based production line can produce 1,142 t-shirts during the same period. As more apparel factories take up sewbots, the average cost for manufacturing these robots will keep decreasing, making them more commercially viable. This will eventually lead to job losses for apparel workers due to automation and exodus of international investments to more developed markets. Bangladesh's remittance earnings may nose-dive, as basic jobs like food preparation, construction, and cleaning, driving and agricultural labor have higher risk of getting automated. A significant portion of expatriate workers staying in Middle-East are engaged in the aforementioned jobs.

The upcoming challenges in the next decade can have a permanent damage on the country's economic fabric, particularly due to overdependence on apparel manufacturing. While there's no easy answer to these impending challenges wrought about by the 4th industrial revolution, policymakers must

"The purpose of education in the 21st century would be to distinguish oneself from a machine."

eke out long term strategic shifts for diversifying the economy. Education would play a critical role in equipping the workforce to adapt to the technological upheaval. As aptly stated by a renowned futurist, 'The purpose of education in the 21st century would be to distinguish oneself from a machine.'

The workforce must develop skills that can't be replicated easily by robots. These include fostering creativity, problem solving ability, leadership & people management skills, critical thinking ability and adaptive learning. The nature of jobs will keep on changing and workers need to unlearn and relearn new skills. Universities of the future would be keen on equipping students to excel at the art of acquiring new knowledge and learning novel skills.

Bangladesh must find ways to ride the service growth bandwagon, driven by the ICT sector. While traditional outsourcing services will eventually get automated, the local ICT sector must find a profitable niche in the knowledge process outsourcing (KPO) based market segment that should require creativity, originality and heavy human involvement. However, large groups of semi-skilled and skilled workers may become unemployable and would likely require large-scale retraining initiative from the government for staying in tune with the market. The country's future might not be cataclysmic, but the eventual technology-led economic turmoil might prove to be a major dampener to the country's future growth, unless concerted attempts are undertaken by the government and relevant stakeholders for stemming the tide of the 4th industrial revolution.

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Envisioning A Data-driven Agriculture in Bangladesh

Consider Abdullah, an agri-entrepreneur in Northwestern Bangladesh. He wakes up in the morning to find a notification in a dedicated mobile application on his cellphone from his aggregator asking if he could supply 50 kgs of tomato from under his networked famers by next week. Through the push of a few buttons, he pulls up the expected harvest collection for next week and just as swiftly, but not before a smile lights up his countenance, lets the aggregator know that it's a done deal. That's how fast a simple piece of information – yet carrying powerful ramifications for everyone in the agri-value chain – flows from one end of the spectrum all the way to the other, in a matter of seconds.

That's what data and ag-tech are doing; they are changing the game. The integration is opening up wider avenues of business opportunities, rendering greater income potential and inspiring the next generation to resurrect the image of an industry that's slowly taking a backseat, but which nonetheless has been the growth driver of Bangladesh in its early years. A paradigm shift in agriculture is already underway.

In a world where data talks, industries and organizations need to step up and leverage data and technology for the greater good. A vast amount of data we are currently sitting on – both individually and collectively – is, at best, serving the purpose of a sleeping giant. As a nation, we are yet to recognize the full potential that data can trigger to create larger impacts for organizations, across all spheres, transcending to social benefits and into economic development.

The case for agriculture is no different. Smallholder farmers along with other stakeholders in the agricultural value chain typically lack the necessary knowledge of and foresight to apply data-driven decisions, which is absolutely critical to compete and succeed in an ever-changing business environment. This apparent problem is only a symptom of a larger problem that exists across the entire agricultural value chain. And that's because data is not getting captured digitally – resulting in several inefficiencies.

Farmers need access to timely market information and agri inputs; agri entrepreneurs and distributors grapple with collecting cash on time and optimizing inventory; processing companies require robust customer and farmer profiling to ensure greater transparency to constantly improve the end consumer experience. So there's a vested interest for everyone in the process.

Granted that data is a critical tool for development, what's the first step towards building the culture? Digitizing paper-based information.

Rapid advancement in hardware and software technology is already paving the way for organizations to collect, analyze and leverage data for better business decisions than ever before. Many of them – either in the form of a rising group of ag-tech startups working towards improving crop productivity or large processing companies investing in data analytics and digital initiatives to predicting sales by region – are cases in points to

demonstrate the growing importance of data digitalization. And **those who will invest in building a robust data and analytics value chain will advance the furthest and fastest** – increasing impact and income; those who are falling behind will risk becoming irrelevant.

What we can decipher from the above is that Bangladesh is moving towards the right direction. Having said that, at the risk of sounding pessimistic, we're still lagging far behind. Broadly speaking, in the agri-value rung, data is currently getting digitized only between the processing companies and the large distributors. What happens from here onwards remains a mystery. Very little transactional data, if any, can be tracked from the distributor to the retailer to the micro-retailers to the farmers. The following exhibit sumps up the status quo.

Data Flow in the Agricultural Value Chain

Source: LightCastle Primary

Current practice entails a manual intensive process. Typically sales and purchase data is recorded on paper. But this practice is severely prone to error, cumbersome, and time consuming. Furthermore, it raises issues around reliability. Because of these reasons, companies at the top often lack the necessary insight to be able to correctly predict sales and duly optimize inventory.

Can you imagine if only companies had access to these information in digital format, how far could they have gone? Just by applying data analytics services, they would have been able to unearth several critical insights that are likely to open new doors to business models, highersales, cost & inventory optimization while simultaneously amplifying social impact.

By working with several large and small agricultural enterprises over the last few years, we have been able to garner some interesting insights that validate the above hypotheses. In doing so, we have developed and implemented a simple mobile based tool that sources data from multiple sources – including farmer profile & land information, transactional data at the point-of-sales, weather information and voice calls. By digitizing manual data, we have started to see several positive implications

occurring across the entire spectrum. Remember Abdullah's example? That's the sort of change we have been able to witness. It is clear that data digitalization is the way forward. It solves several pain points. First, it removes the time lag from order placement to delivery. Second, it ensures faster buyback guarantees for farmers. Third, it empowers all stakeholders to be more timely and efficient. Most important, this digital solution paves way for a sustainable way to strengthen market linkage between smallholder farmers and consumers.

Agri-tech is an essential solution for socio-economic development. With increasing support and investment on the digital front across the country, Bangladesh's agriculture is likely to witness more digital transformation. Early results underscore the conclusion that this can be a viable business agricultural service model, facilitating the creation of new business models, product innovation, and targeted campaigns. To this end, concerted efforts between the private and the public sector will play a crucial role. And in doing so, we will be able to empower market actors – including smallholders – to become more data-driven in their day-to-day decisions.

Ivdad is the Managing Director of LightCastle Partners. He is passionate about working at the intersection of data, development and technology. He specializes in business development, communication and management.

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Impact Investing in Sustainable Business: Next Step for Growth in Bangladesh?

From an allegedly portrayed "bottomless basket-case" to entering the lower-rungs of middle income economy by World Bank, Bangladesh is often showcased as a success story of development. With sustained 6 percent+ GDP growth rate over a decade, strong infrastructure projects in both power and communication, technology adaptable demographic bulge, density dividend, credit line facilities from China, India, Multilateral Development Agencies and growing RMG exports – Bangladesh seems to possess all the right ingredients. Building on the economic momentum, the middle and affluent consumer (MAC) population of Bangladesh currently estimated **at approximately 12 million is expected to triple** over the next decade. MAC cities – currently **10 will increase to 33** in 10 years.

However, at the same time, sub-optimal private sector growth, financial sector hindered by non-performing loans (currently 10 percent+ of all banking assets), overreliance on RMG exports (~80 percent of our total exports) and worker remittance for forex earnings, **rising income inequality and deteriorating doing-business index** – show that Bangladesh still has a long way to go. In her path to become an advanced economy, Bangladesh must find new ways to develop, invest and grow.

Case for Prioritizing Sustainable Businesses

Home to the worlds' largest NGO, BRAC, which is again 75 percent+ self-financed by its commercial ventures, birthplace of microfinance from Grameen Bank and fastest growing mobile financial services bKash – **Bangladesh is often known as the "Silicon Valley for social innovation."** While private sector growth led the way towards economic development – social enterprises have led the way to Bangladesh's climb out of poverty into better living standards for all. Indeed, besides the government the development organizations have done fantastic work in health, education, WASH, agriculture and energy.

However, now Bangladesh faces a unique conundrum. On one hand as Bangladesh becomes a middle income country, **development funds, which have rendered a several social enterprises possible, will shift to other emerging economies** and rightfully so. However, our **social problems are far from over as the growth that we have achieved, especially from our private sector and government led investments, often has not been inclusive,** has been highly centralized to key cities and has not created enough employment. In fact, according to HIES 2016, income inequality in urban areas has risen faster than in rural areas. This can be attributed to asymmetrical jobs growth in the services sector and concurrent drop in blue collar work. Hence at this point, to maintain the growth momentum, Bangladesh needs to **prioritize sustainable growth** and one way to do that is by doing what we have done so well before – prioritizing growth of social enterprises, especially the inclusive business sub-set.

Promoting Impact Capital as a Way to Promote Sustainable Businesses or Inclusive Ventures

So how do you prioritize sustainable businesses over the rest? One way would be to build market mechanisms and systems in supporting ventures that are inclusive –business cases for both financial and social returns. In fact, the world as connected it is now – consumers are willing to pay premiums for mission-driven causes and ventures. That is why fair trade organizations are being promoted and tech giants like Facebook operate zero-rated applications like internet.org. However, **Bangladesh is still not there yet and one way to incentivize that is to make impact investments available.**

While **impact investments have become widely popular all over the world especially in African countries and even India** – Bangladesh is still scratching the surface.

Though there have been a few cases such as the Bill and Melinda Gates Foundation investing in bKash – which works heavily in financial inclusion and payment digitization or IFC investing in the country's leading online grocery aggregator Chaldal.com – the financial instrument remains largely untapped.

However, if **lubricated properly, impact capital can provide incentives to mainstream private organizations** to build inclusive ventures. This would benefit Bangladesh in two direct ways, a) **with more mission-driven/inclusive ventures, we can use business solutions and innovations to solve complex problems** in health, education, financial inclusion, climate among others and b) **tap into the growing impact capital that are made available all over the world** by corporate foundations, philanthropic capital and social impact funds.

> "Bangladesh is often known as the **Silicon Valley for social innovation.**"

So how do you promote impact capital in Bangladesh? What should be the role of the government? What should be the role of the organizations? Can mainstream financial institutions have a role to play here? These are difficult questions to find answers to. However, let me try to give my thoughts of the roles we need to play.

1. Role of the Government:

SEC has already released guidelines for alternative investments back in 2015 that includes impact capital. More recently the government is experimenting with a government backed venture fund under the ICT ministry to jumpstart tech ventures. One possible way would be the **government to launch a fund of funds i.e. becoming limited partners in floated impact funds** in the market. By committing to provide matching funds – availability of impact capital can be increased. Additionally, government can also provide incentives to inclusive ventures; for example, providing tax benefits to green businesses.

2. Role of Financial Institutions:

Bangladesh Bank has introduced circular for banks to invest in alternative financing products outside of the capital markets. This opens up opportunities for both banks/NBFIs and alternative investment license holders in the market. **Banks can become limited partners in impact funds. This would serve as a win-win** – banks get to diversify their investments into a sector, where they can build a portfolio and impact funds can get access to much-need capital to kick-start operations.

3. Role of Private Sector:

The private sector has to the play the role of the crux. Without **innovation and business solutions to our problems, the impact capital would be meaningless.** However, Bangladesh have strong cases to build on – innovative nutritious milk products by Grameen-Danone, Grameenphone originally starting off as an income augmenter for village-women, Aarong creating market linkage for rural artisans are all successful business solutions to social problems. With the right incentives and now with increased technology adaptability, the private sector needs to continue to weave out future innovation.

Summing Up and Way Forward

Resilience and entrepreneurship are key cultural attributes in Bangladesh – you cannot even ride a bus in a city without meeting multiple business professionals or with the advent of digital service marketplaces like "Pathao" or "Sheba.xyz." We are seeing how the population pick up opportunities to jump in and disrupting traditional transport or home-service models. **With impact capital flowing in, innovation can become more widespread and the growth story of Bangladesh would become more inclusive.**

Bijon is the CEO of LightCastle Partners. He specializes in private sector development, sustainable business model, impact investment and financial structuring. He has over a decade of experience across 15+ industries including agriculture, consumer durables, technology, health, energy and manufacturing.

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Inspiring Businesses

Local Manufacturing of Smartphones on the Rise

Bangladesh will be one of the emerging economies to keep an eye on in the coming years, given its remarkable track record over the last decade in economic and social progress. What makes the economic growth in Bangladesh even more exciting is the young population the median age is 27 years. Majority of the population will be composed of young individuals, who will enjoy rising disposable incomes and higher standards of living as the economy grows.

The digital ecosystem in Bangladesh is booming due to the rising income of the millennial population and implementation of state policies that are designed to bolster growth in the ICT sectors. Internet-enabled devices such as smartphones and laptops have gone from being luxury consumer durables to necessities for a high percentage of the population. Young tech-savvy individuals are integrating the internet into all aspects of their lives, from commuting to purchasing items on e-commerce platforms. As a result, there is a surge in demand for high-quality and affordable internet-enabled devices, especially smartphones.

A surge in demand for affordable smartphones has unveiled local manufacturing of such products as a lucrative business opportunity in Bangladesh. Both government policy makers and manufacturers have realized the attractiveness of locally manufacturing and assembling smartphones. Trade regulations have been revised to encourage local assembling and highly incentivize manufacturing.

Local and foreign mobile phone manufacturers are setting up or eager to set up onshore manufacturing. The boom in onshore manufacturing and assembling will be crucial in transforming Bangladesh into a gadget-making hub.

As incomes rise and poverty rates drop across rural and urban areas, the smartphone penetration rate will more than double to 75% by 2025. 40 million phones have been imported into the country in 2018, with 30 million imported legally and the rest through grey channels. About 8.1 million smartphones were shipped in the same year, and one third of these smartphones was 4-G enabled. Local manufacturing and assembling of phones will further bolster replacement of feature phones by smartphones. Many of the locally manufactured and assembled phones are much cheaper compared to the imported counterparts, and therefore accessible by low-income individuals.

The rise of local manufacturing and assembling of smartphones and subsequent availability of cheaper alternatives is reducing Bangladesh's dependency on imports. Imports of smartphones fell for the first time in 2018. According to members from Bangladesh Mobile Phone Importers Association (BMPIA), the import of low-end smartphones (below $80) declined the most in 2018. Imports of high-end smartphones (costing more than $120) increased but were not enough to compensate for the loss in total imports. This suggests that imposition of high taxes on

imported smartphones causes a decline in the low-end segment. Consumers of low-end smartphones can either purchase smartphones through informal markets or switch to locally manufactured sets once high taxes are imposed. Consumers of high-end smartphones might choose to spend an extra amount to buy an original product imported through a formal channel. This is an interesting phenomenon because while the imposition of high taxes on imported handsets have led to a fall in imports, the effect might subside in the future once incomes rise. Trade policies must therefore be adjusted accordingly to stimulate local manufacturing without having too much of an adverse effect on the smartphone market.

In order to leverage the rising demand for high-quality consumer durables, the government has revised tax structures to encourage local manufacturing and assembling of smartphones. The cumulative taxes on imported handsets stand at 34%. Local assemblers, who follow a Semi-Knock Down (SKD) Process, can take advantage of a 17% cumulative tax. **Cumulative tax for phones which are locally manufactured using a Complete Knock-Down (CKD) process is the lowest at a rate of 1%.** The duty structure for local manufacturing and assembling is therefore very conducive.

Comparison of Cumulative Taxes on Smartphones

1%

Locally Manufactured

17%

Locally Assembled

34%

Imported

Given the economic and digital ecosystem and favorable government policy, it is not surprising that both foreign and local electronics manufacturers have rolled out local manufacturing of mobile phones. In 2018, 23,00,000 mobile phones were manufactured in Bangladesh by five local and foreign manufacturers. More foreign manufacturers have plans to set up plants in the coming years.[1] Some like Samsung assemble the phones in Bangladesh, while others like Walton claim to manufacture every single component of the mobile phones. Local manufacturing and assembling success stories of brands like Walton, Symphony and Samsung have inspired others to follow.

1. https://www.thedailystar.net/business/news/mobile-phone-assembly-plant-in-bangladesh-picks-momentum-1691104

Local Phone Manufacturing in Bangladesh

Manufacturer	Capacity 2018	Smartphone (%)	Feature Phones (%)	Assembly/ Manufactured in Bangladesh
WALTON	1,100,000	30	70	Manufactured (Phones and Chargers)
SAMSUNG	600,000	100 (all 4G enabled)	0	Assembly (Components manufactured in China)
SYMPHONY	350,000	N/A	N/A	Assembly
itel	300,000	33	66	Assembly
5STAR MOBILE	35,000	0	100	Assembly

Source: Bangladesh Mobile Phone Importers Association (BMPIA)

However, potential manufacturers and assemblers must carefully design market entry and pricing strategy. A few local brands face stiff competition from both affordable Chinese brands and high-value brands. A common obstacle to growth in local manufacturing/assembling is also the absence of a robust backward linkage.

For most local manufacturers and assemblers in Bangladesh, the backward linkage starts with importing different components of the smartphone from China, and the method of sourcing differs by manufacturer. Fair Distribution Ltd. assembles the Samsung phones in Bangladesh, and the different components are selected and supplied by Samsung. Aamra imports finished smartphones from China. Walton, which follows a CKD process for manufacturing smartphones, imports some raw materials from China. For most manufacturers and assemblers, the backward linkage begins in China and is susceptible to currency volatility.

A dynamic backward linkage which commences in Bangladesh would easily reduce dependency on imports and vulnerability to political and currency instability. However, unlike China and Taiwan, Bangladesh lacks the necessary technical skills for innovation in the technology sector. As a result, manufacturing parts of the phone, such as the processor, might be too taxing in terms of skills required.

An alternative to manufacturing high-technology components of a smartphone might be producing low-technology parts like chargers and batteries. Walton, for example, imports lithium-cells for batteries from China. A local lithium-ion battery producer could supply to Walton and consumers of smartphones. Since the market for smartphones is expanding at a robust pace, the demand for chargers and batteries will also grow at a fast pace. Our economic forecasts suggest that the demand for smartphone batteries will be more than 3X of that in 2018.

Therefore, while Bangladesh might not have the infrastructure and technical skills to manufacture high-technology component parts, it has a lucrative landscape to produce low-technology components such as chargers and batteries. The smartphone manufacturing and assembling industry is making its mark as a rewarding line of business in Bangladesh. The country should derive inspiration from the manufacturing practices of countries such as Vietnam and Malaysia to support onshore manufacturing. According to many local manufacturers, improvements in infrastructure, such as constructions of separate lanes from the airport to economic

zones, would be highly desirable. Key players in the industry should also closely monitor the US-China trade war. As relationship between the two countries continue to stay tense, companies such as Foxconn will consider opening factories in countries such as Vietnam.[2] Manufacturers and policy makers in Bangladesh should attempt to take advantage of this situation and attract companies to Bangladesh. The smartphone market in Bangladesh will grow in both volume and value, and the government needs to carefully implement policy to utilize the growth in consumption and leverage opportunities in the international trade.

2. https://www.scmp.com/news/asia/southeast-asia/article/2176442/foxconn-considers-setting-factory-vietnam-response-us-china

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E-commerce Logistics: The Pivotal Element in E-commerce Success

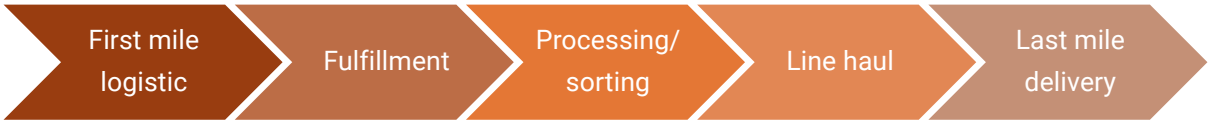
The growth of e-commerce is typically followed by the emergence of logistics service providers (LSP) with the ability to cater to specific delivery needs created by e-commerce. We are living in a time where the application of emerging technologies such as drone transportation, robotic-assisted picking, AI algorithms for automated fulfillment etc. have enabled people to receive same-day e-commerce delivery in some parts of the world. Chinese e-retail behemoths Alibaba and JD.com were able to flourish in China because of the strong logistic support provided by Cainiao and JD logistics respectively.

As e-commerce matures, consumer expectation on delivery rises. Hence, Alibaba is planning to invest US$ 15.58 billion to develop a smart logistics network which can ensure 24-hour delivery across China and 72-hour delivery for the international market.[1]

In India, where the demographic profile of consumers and infrastructural challenges are similar to Bangladesh to some extent, major e-commerce players are heavily investing in their captive logistics wing, while at the same time third-party logistics (3PL) service providers such as E-com Express, Delhivery, Go Javas etc. are expanding by leaps and bounds attracting international investments. For instance, Delhivery, valued at US$ 1.6 billion has received US$ 350 million funding from SoftBank this year.[2]

A fully functional e-commerce logistics service provider usually provides value-added or fulfillment services such as packaging, warehousing, order pickup, security, online tracking and database management for their e-commerce partners. Globally, an e-commerce logistics player might provide all or some of these services.

E-commerce Logistics Activities



Bangladeshi E-commerce Hits an Inflection Point

E-commerce has evolved in Bangladesh as a by-product of the digital revolution. The journey of internet commerce in Bangladesh began in the early 2000s and achieved significant momentum after 2009 when players such as ajkerdeal, rokomari, and akhoni (now bagdoom) entered the market.[3] Bangladeshi consumers, backed by increasing disposable income and improved access to technology,

1. Jack Ma, Founder and Executive Chairman, Alibaba Group. May 31, 2018

2. Economic Times. SoftBank fulfills its $350 million promise made to Delhivery. March 6, 2019

3. IDLC Monthly Business Review. E-commerce of Bangladesh. August 2018

are rapidly adapting to online shopping. The industry is set to grow exponentially from its current estimated size of USD 70.87 million to USD 344 million by the year 2023 while the number of orders in a year is also projected to increase from 9.6 million to around 34 million.[4]

Recent entrance of online retail giant Alibaba into the Bangladesh market through the acquisition of Daraz will change the industry dynamics. E-commerce Association of Bangladesh (E-CAB) is anticipating that the proposed entrance of Walmart and Amazon will further accelerate the growth of domestic e-commerce industry. The industry growth will accelerate due to an even faster consumer adaptation rate, increase in order numbers, and entry of more international players. However, absence of an e-commerce centric logistics system is a vital factor which must be taken into account.

How Fast is Fast Enough?

Backed by the increasing availability of affordable smartphones and the rollout of faster and more reliable mobile telecommunication services, Bangladesh's internet user base continued to grow in 2018. According to Bangladesh Telecommunication Regulatory Commission (BTRC), the total number of internet subscribers stood at 91.421 million at the end of January 2019. It is predicted that the number of smartphone users will reach 138 million resulting in a 75% penetration rate by the end of 2025.[5] All of these data indicate that the digital ecosystem needed to render a digital economy is taking its shape gradually. Bangladesh has observed the growth of its first generation of truly digital consumers who look for solutions online and purchase using digital payment methods on a regular basis. In the coming years, technology adaptation will be even faster, as flocks of millennials will start to join the digital economy. Additionally, owing to worsening traffic congestion and busy schedule of urban lives, more people will be placing orders online. Hence, the daily order size will rise significantly. The real concern here is whether the e-commerce companies can deliver the orders within the promised time frame.

In Bangladesh, if five people are asked about the reason behind their reluctance to order online, at least two will mention delivery as a prior concern. One of the major purposes of e-commerce is to truncate the hassles associated with traditional shopping, and if it fails to do that, consumers' e-commerce adoption rate will remain low.

Success Lies in the Second-mile

At present, 500 e-commerce and 2,000 f-commerce (i.e. companies that operate through Facebook pages only) companies are registered under E-CAB and each one of these does not have the capability to run its own fleet. As a result, they have adapted to different delivery models to fit their needs based on capital expenditure requirement, control, flexibility etc. Majority of them have to make a choice from the following categories:

4. Projection by LightCastle Partners based on industry expert KIIs and macro level data. September 2018

5. GSMA. Country overview: Bangladesh Mobile industry driving growth and enabling digital inclusion. 2018

Range of Service Provided by Each Type of Logistics Service Provider

Type of Logistics Service Providers	Traditional Logistics Service Providers	Captive Logistics Arms by E-commerce (Own Fleet)	E-commerce Logistics Companies (3PL)
Range of Services	Mostly second mile delivery and warehousing facility	Specific functions required by the company	Full-range, as per e-commerce client's requirement
Example	Bangladesh Post Office (BPO), Sundarban Courier, S.A. Paribahan, Continental Courier	Daraz's In-house Logistics Wing (Partial Coverage)	Paperfly, Pathao, E-courier, Biddyut

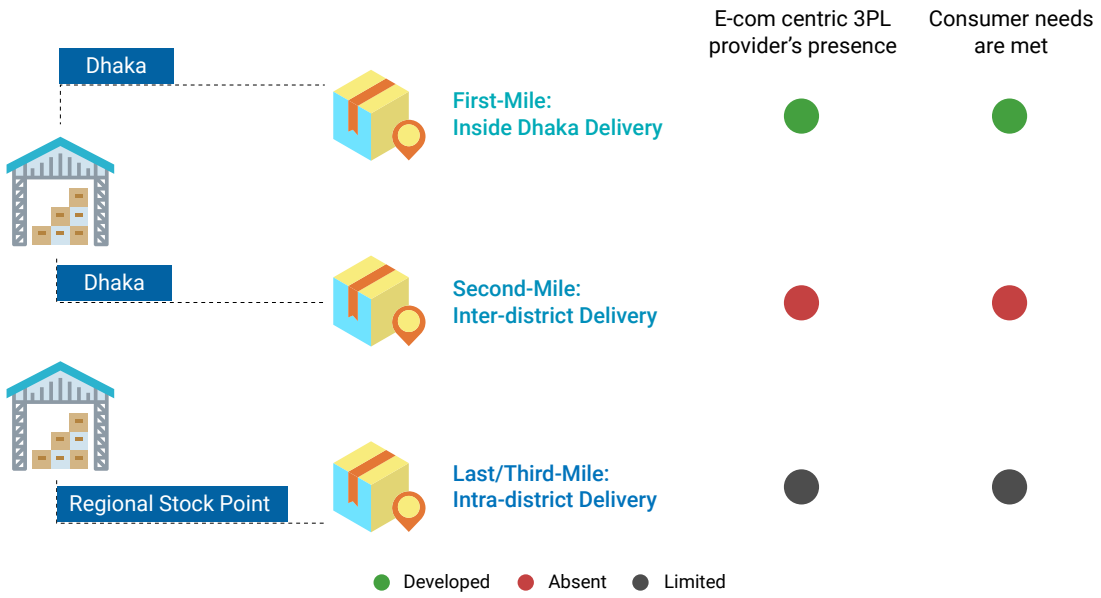
Currently, no Bangladeshi e-commerce player owns a full-fledged logistics wing, which is able to provide a full range of delivery assistance. The first-mile logistics services i.e. e-commerce delivery inside major cities are offered by a number of 3PL providers such as Pathao, Bidduyt, Paperfly, E-Courier etc. The second mile means delivery from Dhaka to other districts. Except for a few traditional LSPs such as Sundarban Courier Service, S.A. Paribahan, Bangladesh Post Office, no other player has entered this segment yet. The last mile delivery indicates inter-district delivery which e-commerce companies conduct through either franchise model or own fleet.

Interviews with representatives from leading e-commerce players have revealed that majority of the orders are placed by the urban consumers and fewer orders are received from the remote and rural parts of the country presently. However, the government plans to set up 100 economic zones all over the country, which will create 10 million additional jobs by 2030.[6] Additionally, an estimated urbanization rate of 42% by 2025[7] indicates that in the coming years, digital consumers backed by increased buying power will be placing orders from all over the country. The geographic dispersion of orders will definitely require a seamless delivery mechanism that is not possible without focusing on the second-mile and last mile logistics.

6. Bangladesh Economic Zones Authority (BEZA) to Dhaka Tribune. Jan 13, 2019

7. United Nations Department of Economics and Social Affairs (2018). 2018 Revision of World Urbanization Prospects. 2018

E-commerce Logistics Value Chain



Making the Logistics Ecosystem Smart

In recent years, omni-channel retailing has been gaining popularity in Bangladesh creating a demand for sound logistics system in the second and third mile. In order to thrive, the goal of both traditional and online retailers should be to make the whole logistics ecosystem smart, optimized and predictive. Traditional logistics companies have the combination of expertise, experience, and vision, but lack in tech-enabled services such as tracking of order, automated fulfilling and return management etc. E-commerce centric logistics start-ups have technology incorporated services better suited for online retailers but face shortage of expertise in labor management and do not have the capital required to build second or last mile fleet.

During the previous century, the only success mantra for the retail industry was "location. location.location." This will be replaced by "distribution.distribution.distribution." In order to leverage the true potential of the growing digital consumer class, businesses must invest in crafting a smart logistics ecosystem to ensure fast and seamless delivery of online orders.

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Developing a Data-Driven Ecosystem to Foster Economic Growth

Data is to oil as value is to money, an analogy to emphasize the importance of data in the modern day era. Data has become a driving factor to success in the global economy. In its absence, we struggle to discern what competitors are up to, what the latest market trends are, and most important, what is it that customers want and are willing to pay for.

Once upon a time, a few decades ago, it might be argued that the changes weren't as important as they are today as globalization had yet to fully bring on complexity into even the simplest of businesses. Though the analogy between data and oil may be up for debate, the value of having the right data at the right time may be just as valuable as finding oil was back in the day.

" The world's most valuable resource is no longer oil, but data. "

- The Economist[1]

Catching Up to the Present

In 2017, Bangladesh ranked 188 out of 235 countries in terms of GDP per capita (PPP, current international dollars)[3] and 136 in the global human development index – two powerful indicators of the countries' standing in the world. However, this isn't to discount the fact that it is also one of the fastest growing economies, targeting double digit GDP growth in the coming years. As much as we may be guilty in comparing the country to its emerging superpower neighbor, India, their economic models for growth are very much different[4]. And if Bangladesh is to catch up with the rest of the world, it needs to understand the unique strengths and opportunities it can capitalize on in the global market. Put simply, one of the ways we can do this is by measuring the extent of automation and digitization, two inevitable developments in the world.

Automation and digitization, done correctly, can increase productivity and profitability, making best use of resources on hand. In the United States, the digital sector, which includes industries such as tech, telecom, entertainment, financial services, and professional services represents 30 percent of private sector output and 25 percent of private sector employment. On the other hand, primarily the non-digital sector, which includes industries such as manufacturing, construction, transportation, healthcare, education, and retail, represents 70 percent of private sector output and 75 percent of private sector employment. Moreover, digital sector in the US has a much higher productivity growth than the physical sector.[2] Done correctly, automation and digitization can bring Bangladesh closer to the present state of developed countries, but for those already at the forefront, the two are consolidating, with developed economies bracing themselves for a new age, the age of experience.

1. The world's most valuable resource is no longer oil but data, The Economist
2. The Coming Productivity Boom, Technology CEO Council
3. World Development Indicators - DataBank, The World Bank
4. Bangladesh and India Pursue Different Economic Models for Growth, Bloomberg

Opportunities Replaced with More

In spite of the concern that increasing use of technology – the Digital Revolution is bringing – will eventually lead to greater unemployment due to the effects of automation, the digital sector is creating more job opportunities in different fields. In other words, it's transforming the traditional nature of jobs and shifting skill sets in demand in the market.

Although digitization and automation in physical sector is making some jobs irrelevant, it is also creating new positions in the market, as they both lead to greater productivity, and requiring more specialization for employees that demands better pay. An interesting example in the history of this phenomenon would be the industrial revolution that mademany labor intensive craftsmen and tradesmen irrelevant with the inflow of mass production. Automation and digitization is in comparison very similar to the events of that time, just now, it's on a different scale.

With the number of new type of jobs that are being created, the need for a specialized skilled workforce is now becoming pressing. This brings challenges to the traditional methods of training and education, questioning its effectiveness. As the pace of innovation accelerates, it is also important to train older workers to learn new skills in order to remain productive and employable. Though specialization is the future of human workforce, this brings more time, money and resources to consider.

" We are going to face many faces of change in our lives and careers, so we have to keep learning and keep moving forward, but learning in this new way. "

- Peter Fisk, Education 4.0: The Future of Learning[5]

The problem can only be addressed when data and the digital platform will be used in tandem to provide more personalized education and make it more accessible, affordable and relevant to the custom needs of each individual with the ability to cater to the mass.

Adaptation is a Must to Stay Relevant

The diversity and complexity of today's economy is creating new markets and making existing ones more fragmented as technology is easing up barriers. Innovation is impacting markets and constantly changing. For companies to stay competitive and relevant, the adoption of data analytics to produce consumer insights and better understand customers is no more a luxury but a necessity.

Digital platforms, with the ability to record and analyze even the smallest interactions of consumers, has made it easier, and less expensive to provide personalized experiences to customers building the perceived value of brands, and eventually driving sales of existing market offerings. Data generated from the activities can be used to further introduce new innovations and improve business models.

5. Education 4.0, Peter Fisk

Leveling the Playing Field

Data and its accessibility have made it easier for new business to be introduced to the market. One of the biggest barriers blocking small and medium enterprises (SMEs) from getting into international trade is a lack of knowledge about opportunities. Cross-border data flow has opened up new opportunities for SMEs to trade overseas, enabling in locating customers easily and building supply chains across national borders.

Data is non-rival. In other words, it can be duplicated and shared at a relatively low cost. That being said, government and public research organizations who have greater access to household information of an economy, also need to open up and share their data to more analysts, so that it can be taken full advantage of.

Data Needs to be Analyzed and Understood, Not Just Stored

While data can be a powerful tool to drive the modern economy, unprocessed data by itself has little to no value. For example, governments and nonprofits often have access to large amounts of unprocessed data, but limited capabilities to analyze and utilize it. Up to 73 percent of company data goes unutilized for analytics.[6] Without the application of data that creates economic value, valuable insights for making critical decisions will remain undiscovered.

This sheds light on the need for data analytics in Bangladesh and a stable ecosystem to support it. We need systems that not only capture data, but also makes it accessible to people who can analyze it and make informed decisions for their businesses. This requires initiatives from public and private sectors and collaborative work to develop a system that is accessible, efficient, and open to drive economic growth.

Moving Ahead

With a score of 39.8 out of 100, Bangladesh has outperformed most of its South Asian neighbors in adopting ICT in the World Economic Forum's Global Competitiveness

6. Misusing data could be costing your business heres how, Inc

> "Data is non-rival. In other words, it can be duplicated and shared at a relatively low cost."

Index 2018[7]. Number of internet users has grown rapidly over the last two decades reaching almost 65 million users in the country[8]. The government is investing highly in ICT ($205.4 million in 2016), which was only $25.6 million in 2008. To attract investors further, the government has also incentivized the sector with favorable policies such as 0% VAT on e-commerce, tax exemption for IT companies, and 100% foreign ownership profit repatriation. For further development of the ecosystem, the government has planned to launch 16 hi-tech parks, 7 software technology parks and 10 IT Training, Incubation & Business Centers.

Recognizing the growing potential in opening up public data for researchers, ICT Division of Bangladesh Government in partner with LightCastle Partners introduced the first open data platform in 2016. Based on the learning and experience from the project, we have launched a private initiative – DATABD.CO – a data platform that brings business and industry data of Bangladesh in one single platform in an effort to aid the business community of Bangladesh promote data-driven decisions.

While all this sounds promising, Bangladesh ranks 102 out 140 in ICT adoption in Global Competitiveness Index, which indicates our automation and digitization effort is still far beyond the global competition. Besides, data or digital ecosystem needs more private investments and room for improvement. Finally, while preparing the workforce for ICT adoption, the government should focus on creating skilled labors for the modern data based jobs; putting emphasis on curriculum that facilitate in the creation of more data scientists and analysts to remain competitive in the global labor market.

7. The Global Competitiveness Report 2018, World Economic Forum

8. Internet users in Bangladesh have increased 800x since 2000, Dhaka Tribune

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Changing Lives

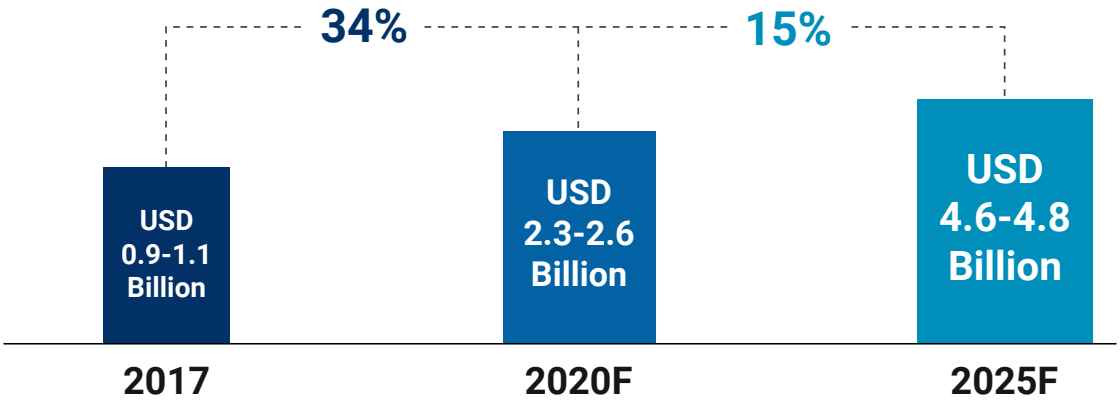
Skills Gap in the IT Sector: Utilizing the Power of Youth

Economic growth is transforming Bangladesh, building its pathway to becoming a middle-income economy. Bangladesh is a fast growing economy, with a GDP growth of over 7 percent in fiscal year 2018 keeping up an impressive annual average growth rate of more than 6 percent over the last ten years. Bangladesh has multiple factors that favor continued strong economic growth – a steady inflation rate of 5 to 6 percent in the last five years and a record high forex reserve of USD 33.5 billion as of 2017.[1]

The Government of Bangladesh is aggressively pursuing a digital agenda to enhance the local information communication technology ecosystem by channeling large investments into the sector and undertaking large infrastructure projects. The Government's Vision 2021 and the Seventh Five-Year Plan (2016–2021) called for a shift to a new development paradigm. As part of the vision of "Digital Bangladesh," the governmentpromotes information technology (IT)/IT enabled service (ITES) industry (IT industry in short) is the next growth engine, after the garment industry, as well as the means for providing better public services.[2]

The Bangladesh IT market is currently valued at USD 1 billion with an exponential growth forecast of becoming 5 times its size and reaching USD 4.8 billion by 2025. The IT industry in Bangladesh, though significantly smaller than offshoring giants such as India and the Philippines, has demonstrated one of the highest growth rates globally, indicating a huge untapped potential and has increased interest of investors. The domestic industry is expected to generate revenues of USD 0.9 to 1.1 billion in 2017 and grow nearly fivefold to reach USD 4.6 to 4.8 billion by 2025. This is remarkably higher than the overall growth forecast for either an established peer location such as India (10 to 13 percent CAGR for 2017-2020) or an emerging peer location such as Vietnam (12 to 15 percent CAGR for 2017-2020).[3]

Bangladesh IT Services-ITES Industry Domestic Market Size 2017-2025F



1. LightCastle Business Confidence Index, 2017-18

2. Digital Bangladesh for Good Governance, Bangladesh Development Forum, February 2010

3. Betting on the Future – The Bangladesh IT-ITeS Industry is Poised for Growth, Everest Group, 2017

The IT services industry within Bangladesh has been growing, serving international and domestic clients in the banking and telecom sectors. Bangladesh's emerging IT outsourcing players already have strong credentials, and the Bangladeshi freelancer community has supplemented IT exports. Bangladesh is consistently ranked among the top freelance work locations on employment websites like oDesk, eLance and the likes.[4] There are over 1,500 registered software and IT-enabled services (ITES) companies in Bangladesh. Among these, over 1,100 companies are members of the Bangladesh Association of Software and Information Services (BASIS). Bangladesh export software and ITES to more than 60 countries around the world and the number of exporting companies – excluding freelancers – are about 400.[5]

Telecom, banking and manufacturing industries are driving the demand for digital services in Bangladesh. With companies growing at scale and rapid technology adoption among the population, digital solutions such as ERP systems, payment systems, big data analytics have become indispensable to keep up with the evolving industry dynamics and not become redundant. Certain local players have begun serving other nations in the South Asian region such as Nepal, Bhutan and Myanmar that have embarked on a similar journey towards digitization as Bangladesh. Services availed by these economies are traditional ERP, microfinance, Islamic banking for the finance and insurance industries.[6]

With more than half the population below the age of 25 years, one of the youngest Bangladesh has a high number of students graduating from its universities every year. In 2017 alone, 3.2 million students were enrolled in tertiary level education compared to 1.6 million in 2015. The total tertiary enrollment over the next decade (2016-2026) may reach 4.6 million according to an estimate made by the University Grants Commission (UGC) of Bangladesh.[7] With 38 public and 92 private universities, Bangladesh churned out 543,000 tertiary graduates in 2016-17. Of the total pool, nearly 16,000 have IT-related degrees, and 126,000 have business-related degrees. At a city-level, Dhaka has the highest concentration of talent with 63,000-67,000 tertiary graduates annually, which is higher than several competing global services destinations. Dhaka's local talent pool is further amplified with the migration of talent from other parts of the country. Bangladesh have about 90 private universities, half of which have ICT faculties, and 70 public universities, some of which also provide ICT courses.[8]

However, lack of good talent and weak infrastructure hinder the growth of IT firms in Bangladesh. Most of the IT firms in Bangladesh are relatively new and small-sized and a small number of international IT firms operate on a limited scale. While weak IT infrastructure and branding are issues, Bangladesh lack skilled workers at different levels in quality and quantity. As the IT sector in Bangladesh is growing rapidly, there is a shortage of ready-trained talent. Most companies plateau around 300-400 full-time equivalent scale, with around 100 employees having technical knowledge and capabilities, and leverage the freelancer pool to handle overflow volumes.[9]

4. ITC and KPMG, 2012

5. Raihan, Khondker and Ferdous, Bangladesh Sectoral Growth Diagnostic, April 2017

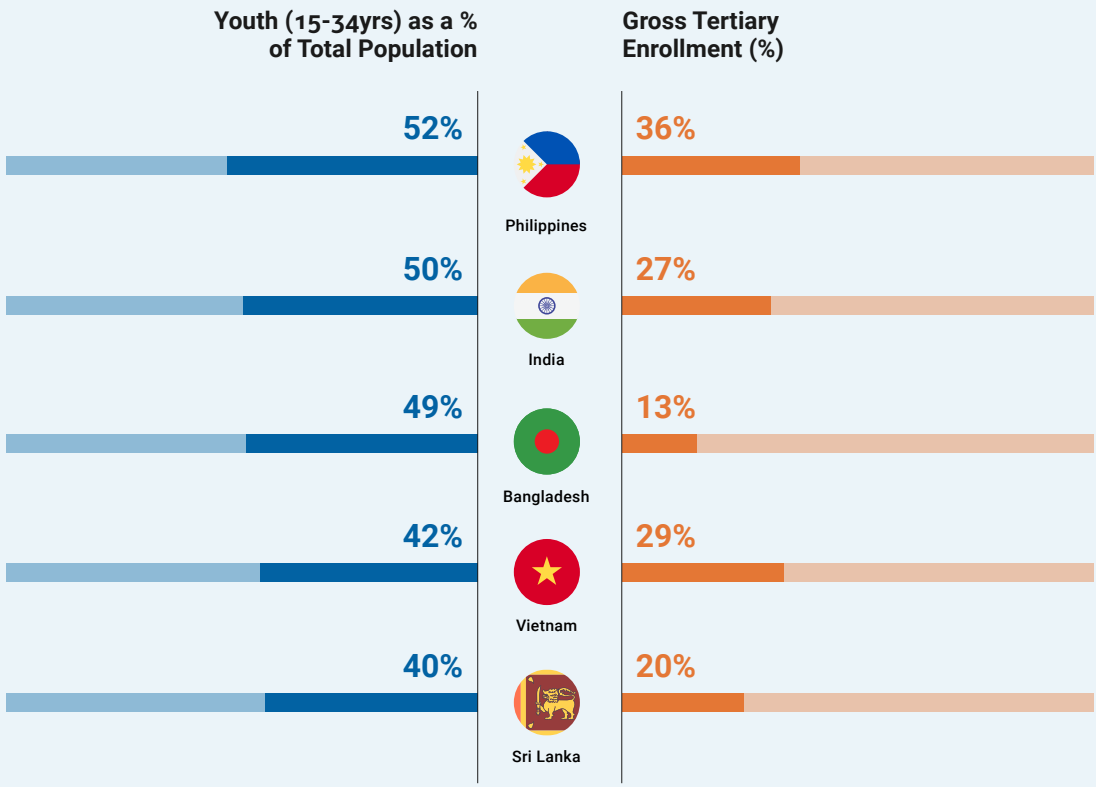
6. Betting on the Future – The Bangladesh IT-ITeS Industry is Poised for Growth, Everest Group, 2017

7. Achieving our higher education targets, Abdul Mannan, The Daily Star, February 2017

8. Betting on the Future – The Bangladesh IT-ITeS Industry is Poised for Growth, Everest Group, 2017

9. The ICT Industry White Paper of Bangladesh, Bangladesh Association of Software and Information Services (BASIS), May 2017

Large Young Population Indicates High Potential, But Untapped Due to Low Tertiary Enrollment



Source: World Bank and BANBEIS

Only 0.3 percent of Bangladesh's labor force are employed in the Information and Communication industry. Bangladesh's labor force participation rate (the proportion of population aged 15 or older who were currently economically active) in 2015-16 was estimated at 58.5 percent. Of those employed, just 5.3 percent have attained tertiary level of education.[11]

Skills development, or lack thereof, therefore, turns out to be a colossal problem. One salient reason for that is the unavailability of good, quality training institutions. Many of them are currently unable to respond to the market needs. Nascent market conditions are likely to be challenging with respect to prevalence of middle-level management, experienced resources, and presence of ancillary services (e.g., recruiters and training providers). In fact, the recent Bangladesh Institute of Development Studies (BIDS) report clarified that IT sector require university graduates, and there is a huge demand for programmers, system analyst, software engineers and quality assurance specialists. Similarly, existing supply of project and product managers (mid-level professionals) and graphic designers is in shortage. IT companies also require work in collaboration. While people can make breakthroughs with Computer Science theory, application requires a team—a critical mass.

11. Bangladesh Quarterly Labor Force Participation Survey, 2015-16

The quality of education has direct implications to employability of university graduates, as factors beyond subject knowledge such as soft skills, on-the-job training (OJT) or career guidance can determine whether a student will attain a job after graduation. 74 percent of start-up founders agree that universities are failing to provide a high-quality IT education. Many contend that university courses are based on outdated curriculums and technologies, and suffer from a dearth of qualified professors and teachers. Moreover, employers have mentioned two types of skills shortages:

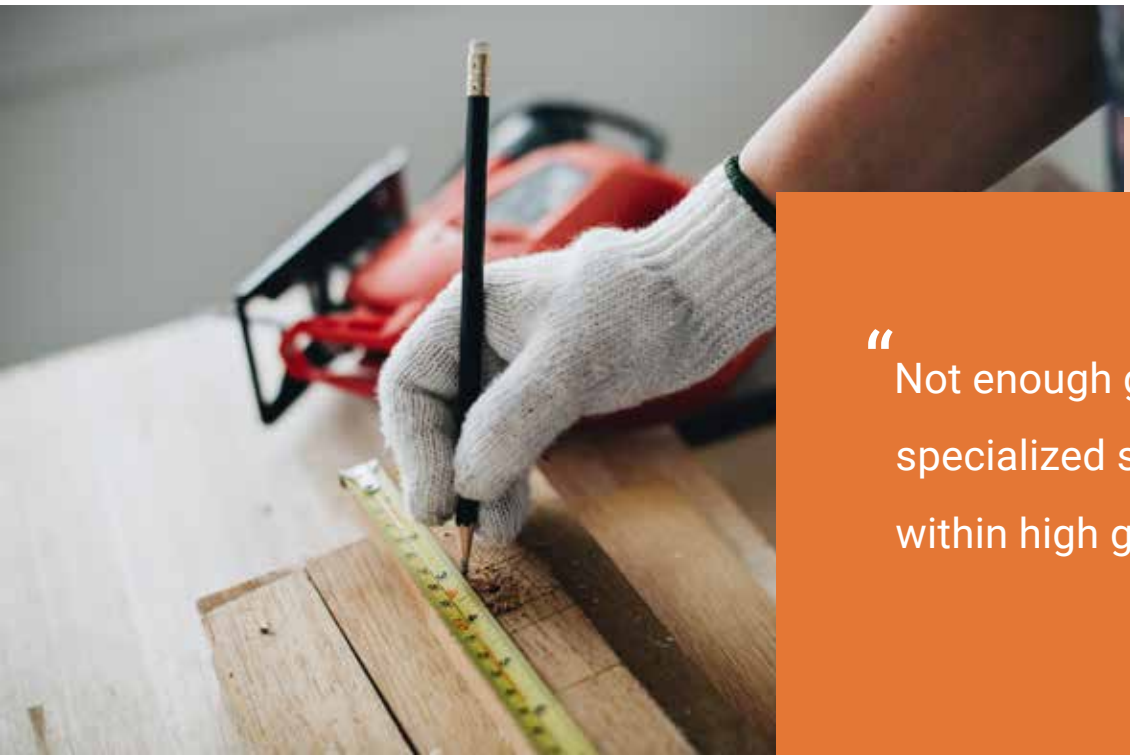
(a) not enough graduates in specialized skills needed within high growth sectors, and

(b) where graduates have these skills, they are still not employable because skills in English language, computer, communication and problem-solving abilities are absent.

Furthermore, absence of quality assurance mechanism is a critical issue in Bangladesh.

Each public and private university relies on its own mechanism to ensure quality. For public universities, the mechanism includes curriculum reviews by the curriculum committee, assessment of achievement and designing future action plans by the Academic Council. There is no provision for external review of quality for the universities. The UGC carries outmonitoring of private universities to a limited degree. The private universities need UGC's permission to open and operate departments. However, many of the private universities have failed to meet the minimum requirements of physical infrastructures, fulltime qualified faculty, libraries, teaching aids and other facilities to provide proper education.[12]

12. Bangladesh Country Summary of Higher Education, The World Bank, December 2007



"Not enough graduates in specialized skills needed within high growth sectors."

To tackle the issue of skill gap in the IT sector, coordinated efforts are required from the academia, the industry and the Government. There needs to be a match between industry expectations and expectations of job seekers in the IT sector. To begin with, the industry can set standards by developing a qualifications grid, a salary range, and detailed skill requirement for positions in IT companies as they reach out to universities for recruitment, or when they advertise their posts. The required skill sets and qualifications grid would enable students and graduates to better manage expectations, while providing academia with an up-to-date list of required skill sets with which to adjust its curriculum.[13]

In this way the industry can benefit in tailoring the talent pool to suit specific needs and acquiring adequately skilled graduates as employees. Ideally, this could lead to more standardized curricula across all institutions and foster deeper collaboration between them. There should be a centralized and coordinated process to test/assess the skills set of a fresh graduate. Post graduation, candidates must have a chance to further enhance their skills, and this can only be made possible if organizations come forward and invest in their development.

13. BASIS News & Views, Vol. 3, Issue 4

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DFS in Bangladesh: Beyond Coffee Shops and Consumer Purchase

Munad, a PayPal engineer and a non-residential Bangladeshi, has come to visit Bangladesh after a long time and is in constant awe of the amount of transformation the country has gone through in the last decade. From technology integration to developed infrastructure, he was hard-pressed to find similarities between the Bangladesh he had lived in a decade ago and the **Bangladesh of now, an evolving digital cornucopia of 165 million people.**[1] **With 45 million smartphone users, 35 million unique mobile internet subscribers**[2] **and a startling social media presence of close to 25 million users**[3]**,** the country is going through an unpreceded period of digital gentrification. In conversation with him at a renowned coffee shop in, adorned with flashy table tops from DFS providers boasting discounts on digital payments, the discussion inevitably turns to his trade, mobile money, and the investment potential in Bangladesh.

Finding the Right group of DFS Users is the Key to Scaling Up

Having had similar conversations with potential investors for Bangladesh, I wasn't surprised by his questions about the potential of building DFS based products for millennial consumers, who make up roughly 46.9% percent of the urban population.[4]

The smartphone and internet-bred digital millennials of Bangladesh are diverse in their consumption behavior and exemplifis a penetration in Bangladesh, attributable to stringent KYC requirements and lack of credit footprints of most of the population. MFS has growing demand for more convenient lifestyle solutions. **What Munad and other aspiring foreign investors in Bangladesh miss out on is the hidden market of close to 139 million people (84.24% of the population) making up the 'Aspirant' and 'Bottom of the pyramid (BoP)' segments of the population.**

In the next 6 years, the aspirant population group is predicted to grow 1.5 times its size. Given the economic trajectory, the aspirant population will swell to make up 46% of the population as income level and purchasing powers will increase. This population group will come from the shrinking BoP population and DFS providers that will now build products and services with inclusivity in mind stands to lock in the largest market of consumers in the coming decade.

DFS Penetration has been Phenomenal So Far

DFS in Bangladesh is mainly synonymous to mobile financial services (MFS) due to the emergence of bKash in 2010. bKash has managed to replicate a model engineered by M-Pesa of South Africa to an extent that it has surpassed M-Pesa's consumer base. This success has been possible due to low banking

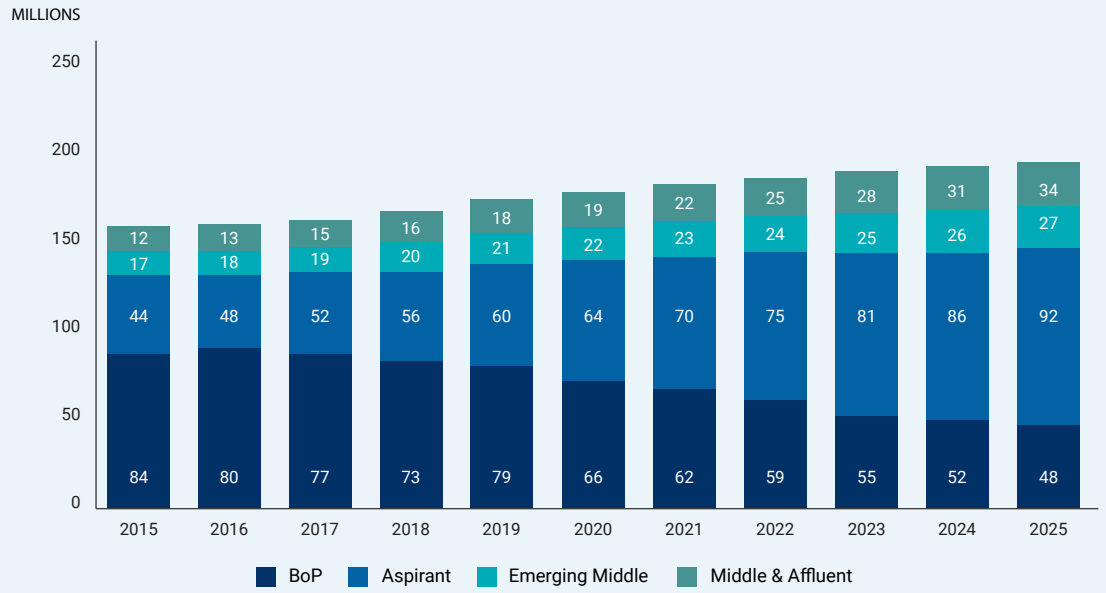
1. World Bank Population Data, 2017, Accessed on: 02.03.2019

2. Mobile industry driving growth and enabling digital inclusion, GSMA Intelligence, 2018

3. Facebook, 2018

4. BBS and LightCastle primary research

Bangladesh Income Class Population Composition (Projected)



Source: Bangladesh: The Surging Consumer Market Nobody Saw Coming, BCG, 2015

managed to fill a vacuum that was previously being catered to by logistics companies transferring funds at high charges and informal networks of money mules. **Currently, 18 banks and NBFIs have an MFS license and as of December 2018, there are close to 67 million users using the service with an average transaction of BDT 316 billion being conducted each month, growing at an average CAGR of 2%.**[5]

Similar to bKash, DBBL's Rocket, a mobile money app is considered to be the second largest player in the DFS market. DBBL is one of the leading local banks in Bangladesh and has the largest network of ATMs in the country that are capable of DFS transactions, which is why Rocket has been so popular among users.

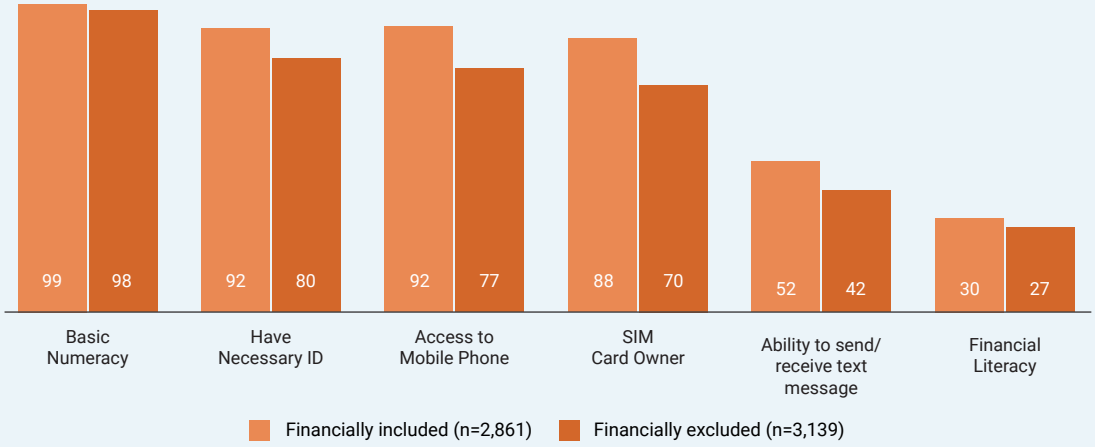
DFS has become synonymous to MFS and banking services but solely mobile money transaction service is yet to take off. There are a couple of solely mobile money transaction players [Payment Service Providers (PSPs)] such as Upay, Pay360, and iPay (similar to Paytm of India) but they haven't been able to scale up due to regulatory constraints.

Around 28% of DFS transactions are still being conducted as Over The Counter (OTC) transactions through agents and the challenge for DFS providers is moving users towards more personal account based transactions. Readiness indicators of the user group are encouraging with at least 92% of users having a National ID, a basic requirement for opening DFS accounts.

5. Mobile Financial Services (MFS) comparative summary statement, Bangladesh Bank, Accessed on: 02.03.2019

2018: Readiness Indicators by Financially Included vs. Excluded

(Shown: Percentage of Bangladesh adults who are financially included vs. excluded)

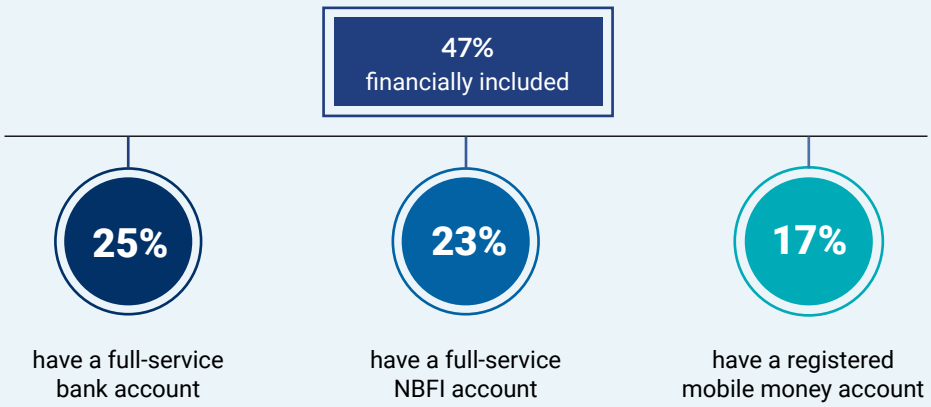


Source: Bangladesh Quicksights Report, Financial Inclusion Insights (FII), 2018

DFS has been Instrumental in Driving Financial Inclusion in the Country

What has been encouraging is the ability of DFS in creating greater financial inclusion for the country. According to recent Financial Inclusion Insights (FII) data (2018), around 47% of Bangladeshi adults are financially included with 17% having a registered mobile money account, 25% with a full-service bank account and 23% with a full-service NBFI account. Only the previous year the financial inclusion of the country stood at 37%.[6] These figures show encouraging leaps in financial inclusion and technology adaptability of

Financial Inclusion in Bangladesh - 2018*
(Shown: Percentage of Bangladesh Adults, N=6,000)

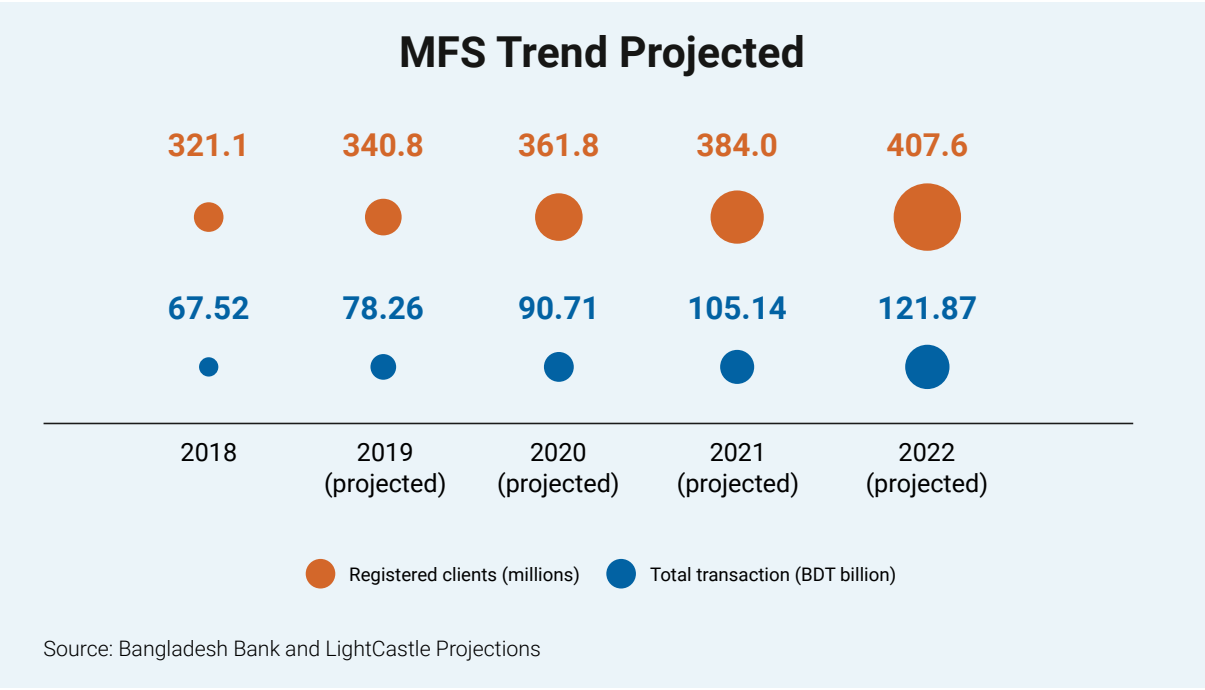


**Overlap representing those who have multiple kinds of financial accounts is not shown*

Source: Bangladesh Quicksights Report, Financial Inclusion Insights (FII) , 2018

6. Bangladesh Quicksights Report, Financial Inclusion Insights (FII) , 2017

the population. Finding the next stream of DFS based revenue in Bangladesh is no longer about finding the right target group but about crafting the right strategy to capture the market of users that have emerged in the last decade. From blue collar workers receiving their salary for the first time digitally to SME business owners receiving their loans through MFS, there's a lot of avenues of usage DFS that haven't been perfected as of yet. However, progress has been encouraging so far.



Source: Bangladesh Bank and LightCastle Projections

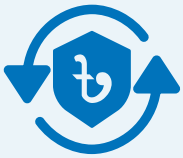
Opportune Industries are Emerging for Greater DFS Integration

In one of our studies with the Bill & Melinda Gates Foundation, we saw that close to a million workers in the apparel sector were now receiving salary in a digital format and this number is increasing through combined efforts of DFS providers and apparel suppliers. In the microfinance sector, the usage of DFS has been equally inspiring, especially for women borrowers.

Industry experts believe close to 2% of women clients are now unofficially using mobile money to make repayments and are utilizing DFS. Even if just a 15% transaction digitization is achieved this year, the industry could transform the lives of close to 4.5 million women in a matter of months.

So the final question comes down to what needs to be done to be able to successfully increase a 67.5 million user base to double its size within the next four years?

The major growth impediment to higher DFS penetration is constrictive policies. Mainly, there's a BDT 10,000 cap on cash-out cap MFS accounts, which significantly restricts the users' ability to access their cash. Admittedly, the industry is fairly new to regulators and AML/CFT based regulations are crucial in ensuring the long-term sustainability of the industry. However, **policymakers need to take measures to facilitate further usability of DFS by increasing cash-out limits gradually in order to actually let the industry grow in controlled phases.**



The reason a cash-out cap is challenging is that most users are still not being able to utilize their money digitally as frequently as needed. Cash-out charges are also a detriment as it's an added cost to the consumer. **DFS providers need to find the right strategy to deepen the ecosystem of merchants to allow higher digital transactions,** which will eventually bring down the transaction costs of the user base. This would enable more users shift to a DFS faster. DFS providers have seen apparel workers withdraw 60% of their salary in cash within the first week of salary received after the first month of being digitized. However, after 9 months, the cash-out reduced to 40% of their salary. This shows that users begin to trust DFS services after being habituated with the system. This cash-out would reduce further if they had more ways to spend their money digitally.

Lastly, we have a perception that a lack of financial literacy is the major reason behind blue collar user groups not adopting DFS. In practice, a lack of tech literacy is a more pressing reason why DFS adoption is lower among this income group. **Around 98% of non-users have basic numeracy skills necessary to conduct rudimentary DFS transactions but around 42% do not have the ability to send or understand text messages.**[7] DFS providers need to structure products and services with the end user in mind and they also need to build a more efficient process of teaching the average user on how to use DFS.

Envisioning the Next 6 Years

For an investor like Munad, it's great to have a vision of Bangladesh with a providential investment climate for DFS but ***it needs to be complemented with the right strategies and realistic overview of the target consumers.*** The right blueprint of succeeding in the DFS industry can only be built by those who focus on the right group of aspirant and BoP consumers, create products and services that are aligned with consumer DFS adoption ability and focus on advocacy of conducive industry regulations. These are the reasons why bKash and Rocket have been successful so far and in the coming years it will be exciting to see how they transform their current base of fragmented users to industry-focused b2b user groups.

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Betting on Entrepreneurship to Transform Bangladesh: Case for Mainstreaming SME Accelerators and Incubators

Bangladesh has positioned itself as a leading frontier market with a population of 168 million (BBS) – 8th largest in the world and 5th in terms of density. And on top of that 50% of the population is below the age of 35 with 500 thousand fresh graduates entering the market each year (Bangladesh IT/ITeS Industry Development Strategy – LICT).

It's unfortunate, however, to note that the economics of supply and demand in regards to employment aren't matching. According to a study of Bangladesh Bureau of Statistics (BBS), as many as 400,000 youths with university degrees are now unemployed. This has left around 4.37 percent (BBS) of the total labor workforce, roaming from one place to another looking for work. This huge untapped human capital can be converted to assets by promoting entrepreneurship and inclusive ventures.

According to Social Progress Imperative (SPI), Bangladesh in comparison to its peers produced a 'development surprise' in the SAARC region, ranking 99 among 132 countries -- a relatively strong performance when compared with Nepal (101), India (102) and Pakistan (124). The World Bank measured Bangladesh's GINI Coefficient at 32 percent (higher than less industrialized countries such as Albania, Niger, and Serbia) and the country was ranked 111 out of 148 countries on the Gender Inequality Index in 2012. Currently, the country has USD 30 billion+ in foreign reserves, USD 210 billion in yearly GDP value and with USD 1,350 per capita income just entered thelower ranks of a middle income nation. Whilesocial and economic indicators are moving in the right direction, the growth is far from inclusive.

Bangladesh has received over 52 billion USD in aid over the past 45 years[1] but the public system is not geared to utilize all the funds, resulting in a reduction of the annual development plan (ADP) by almost 20 percent every year[2]. While development giants like BRAC, Grameen Bank, ASA as well as over 26,000 smaller NGOs and 1000+ microfinance institutions with their unprecedented efforts is helping Bangladesh achieve equitable growth – we need sustainable business ventures to keep up the momentum.

Entrepreneurship as a gateway to sustainability: Give a man a fish, you feed him a meal; teach a man fishing, you feed the whole village. Entrepreneurship development is becoming increasingly important because it creates a lot of impact on the locality and changes the lives of the people. Previously, businesses were all about profit but now enterprises are working towards becoming inclusive, where they care about people, planet and profit.

1. Uddin, Shamsu (2016), "The Impact of Aid on Economic Growth of Bangladesh: A Review",

Thoughts on Economics, Vol. 25, Issue 3 & 4 | December 2016. Retrieved from: https://www.ierb-bd.org/thoughts-on-economics-vol-25/

2. Uddin, Shamsu (2016), "The Impact of Aid on Economic Growth of Bangladesh: A Review",

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Big economies like that of India has launched initiatives like StartupIndia through the Government to attract more entrepreneurs to start their own businesses, and Make in India to attract foreign companies and direct their FDIs into these heavy industries. Any business – big or small – will contribute to the society because it not only makes money for itself, but also provides jobs, creates export opportunities, distributes wealth and elevates the living standards of the whole community.

Bangladesh was lagging behind SME development only a couple of years back, but now new initiatives are trying to enable entrepreneurship through various accelerator/incubator programs and impact investments around different parts of the country. These incubator/accelerator programs and impact investments are giving local SMEs an opportunity to build inclusive ventures and create employment opportunities. The programs are helping SMEs scale by providing financial support along with gaining market linkages such as introducing them to corporate buyers, foreign investors, logistical support and educating them on how to run a sustainable business for the long run.

For a sustainable Startup/SME ecosystem, it is vital to facilitate entrepreneurs by providing business capacity building and access to finance. From the year of 2013, both public and private sector stakeholders are focusing on building the ecosystem. Government, local conglomerates and MNCs have been quite active in running such initiatives. In an effort to promote the startup scene, the government launched STARTUP BANGLADESH, which also has provisions for VC investments; Grameenphone, Bangladesh's largest telecommunications company launched GP Accelerator focusing on corporate technology startups; SD Asia, a local start up incubator launched STARTUP DHAKA focusing on tech based startups; LightCastle Partners launched SMARTCAP & Unnoty business accelerator programs with provisions of receiving impact investments to facilitate Ag-SMEs and entrepreneurs.

Case in Point – The Momita Enterprise Story: The couple Mr. Md Delowar Hossain and Mrs. Momita Hossain have turned the tables in the flower cultivation sector by their venture "MOMITA FLOWER PRODUCTS" by participating in a business acceleration program. The accelerator program was jointly facilitated by Truvalu.enterprises and LightCastle Partners. From a small flower producer, they have now turned into a fairly large firm. Not only have they increased their production and sales by 50% but also created working opportunity for others. What's more, they have secured Series-A Equity funding from Truvalu.Enterprises.

Currently Momita Enterprise have around 50 employees, who are directly working in the flower processing unit and a further 20-25 part time workers who are working in ancillary functions like packaging and logistics. At present, Momita Enterprise is working on developing own logistics support to ensure uninterrupted supply of flower products in the domestic market. Currently, they are focusing on signing up distributors in the divisional cities.

Can you imagine what Bangladesh would look like if we had more successful stories like Momita? And what it takes is really not complex. Just the right set of tools and capital can bring about wonders in the lives of so many small businesses all over the country. Not only will wealth be distributed more equitably, but also additional employment opportunities will get created.

By witnessing success stories like the above, alternative investment firms – alongside financial institutions – have also entered the market to capitalize on the growing opportunities. Some notable examples include: Venture Investment Partners Bangladesh (VIPB), Truvalu.enterprises, Maslin Capital and BD Ventures. There are at least 15 impact investors currently active in Bangladesh with a total of USD 955 million in deployed capital, of which USD 834 million has been deployed by DFIs. Beyond these impact investors, at least 14 impact-related investors have current investments in Bangladesh of about USD 744 million (source: GIIN).

The new era of entrepreneurial revolution has begun – fueled by entrepreneurship development programs. However, to make a sustainable business ecosystem we will need startup/SME friendly policies, easy access to funds/alternative investment ecosystem, education system which promotes entrepreneurial spirit, less bureaucratic administrative processes and finally social and cultural support to remove the stigma and fear of becoming an entrepreneur. If these challenges are overcome, SMEs and startups can make significant contributions to the growth of the economy and solve our jobless growth conundrum.

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