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EDX LABS: 5 YEARS ON
BUILD LOCALLY,
SCALE GLOBALLY

CELEBRATING 48TH NATIONAL DAY
20TH ACCESSION ANNIVERSARY OF
HIS MAJESTY KING HAMAD BIN ISA AL KHALIFA

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EDX LABS: 5 YEARS ON BUILD LOCALLY, SCALE GLOBALLY

According to recent data from the World Economic Forum, the Kingdom of Bahrain ranked first in MENA for ICT readiness and individual ICT penetration, ranking 14th overall among 139 economies globally. It is these strong foundations that have enabled the Kingdom to step into the future by utilizing the latest innovative technology for a prosperous ICT ecosystem. No one is more aware of this trend than Mirza Asrar Baig, Co-Founder, and CEO of Bahrain-based R&D company, EDX Labs.

It has been a great few years for Bahrain as it follows a digital transformation map, determinedly moving digital for a better future, adopting the latest technology solutions, be it Fintech, Artificial Intelligence, Cyber Security, Big Data, and more. Supporting its efforts are companies such as EDX Labs which have navigated their own journey through constant experimenting and a never-say-die attitude, drawing strength from the climate of transformation and positive change in the Kingdom.

For EDX Labs, this is a landmark year as it celebrates a milestone in its vision to build a smart nation for tomorrow. As a contributor to the Kingdom's digital transformation, EDX Labs and its offspring startups have achieved the biggest disruptions in cloud-based security technologies. These technology platforms have resulted in stronger Cyber Readiness of both public and private institutions, and brought benefits such as exponential savings on cost and time, multi-fold ROI, quick response strategies and informed risk management decisions. In testament to its rapid progression, EDX Labs was awarded "Technology Company of the Year" in November 2019 from the Middle East Economic Digest, MEED, which recognises visionaries and pioneers across the GCC that have a positive impact on the GCC community.

"We are honoured to be recognised by MEED and to be chosen from so many worthy contenders who have been doing some outstanding work in the GCC. Starting with CTM360, a cybersecurity company that operates via the cloud, we have established 4 companies. From this initial start-up, we went on to extract the R&D department, now known as EDX Labs. Our vision is for EDX Labs to foster and grow an efficient and economic tech-development environment within the region."

EDX Labs today services companies under its umbrella that cater to a majority of the top 50 banks in the GCC, as well as entities in Oil & Gas, Healthcare, Sovereign Wealth Funds, Aviation, and other sectors. Celebrating the fifth year of his entrepreneurial success, visionary Founder and CEO MIRZA ASRAR BAIG, a now well-recognized figure in the GCC's cybersecurity service space, talks to Editor in Chief REENA ABRAHAM about the journey, and what lies ahead for the company.

Congratulations on a historic milestone! Can you tell us what this moment in your journey means for you and for the company?

Personally, looking back at all my past attempts, failures, challenges, and this place we are in today; it truly is a very big moment. I have tried many things before, and though each of the ideas held immense potential, for various reasons, they did not fly. In early 2000, I built an Email firewall, and all through 2003 and 2004, I was developing and pushing it, but failed to convince corporates that we could build as good as the West. We were announcing that

here was 'The first email firewall built in Saudi Arabia', but corporates were not interested! Perhaps we were ahead of our time. Everyone wanted big names from the western world. I also established a security operations center technology in Saudi Arabia by 2006, but again it didn't fly. Having traveled those journeys, where we are today, and what we have achieved, this is truly a moment of triumph. EDX Labs is the outcome of the current 5-year Bahraini journey that is part of my 20+ years of struggle. It is truly a 'wow' moment for us.

What is the idea behind EDX Labs and tell us how you achieved it?

In the mid-90s, it occurred to me that our region was behind in R&D, so I committed myself to develop Software Technologies that would be used across the globe. As the internet came into the Arab World, Cyber Security became my focus. In 1997, I initiated a Cyber Security System Integrator business and started developing security technologies. The continuous failures were a learning curve and taught me a good lesson of not staying in two boats at the same time, either you are solely developing technology or you are servicing the technology of others. Why? Because the challenge of convincing the market on your technology starts by first having your own staff believing in that. In 2014, I established an independent unit in Bahrain with 3 fresh graduates to do nothing but work on my idea of CTM360 and started closing down my system integration business in Saudi. Since then, I initiated this transition to Bahrain which has enabled me to reach where I am today. Let me tell you, this is just the beginning; to justify this R&D company, we have successfully incubated other companies under the umbrella. My mission is to foster an environment in our part of the world; an ecosystem of software technology developed locally that can scale globally with customers/ users all across the world. The real question is, why can't we have the next Facebook or Microsoft from here?

To prove my point, we started off with CTM360 and then developed and launched the other four companies. CTM360 already services customers across 28 countries but there is a long

way to go to gain a strong global presence. EDX Labs is currently implementing machine learning and artificial intelligence for CTM360 to disrupt the cybersecurity industry. CTM360 caters to the whole technology stack required outside the firewall security whereas most companies may give you a part of the required stack. We are comprehensive and serve as an entire and complete external cybersecurity department for organizations. For this, EDX Labs will continue to create innovative technologies that are game-changers in global markets.

Next, we have DMARC360, which provides end-to-end mail delivery, security and intelligence services based on the global framework of DMARC. I believe we are the first and only company that has developed DMARC platform with a multilingual interface, as well as an in-country cloud hosting capability which is often stipulated by regulators for greater data sovereignty.

Twenty years of experience in Penetration Testing, managing year-long projects, and partnering with vendors across the world, led to our concept of PENTEST360, whereby we do pen-testing every day of the year in a continuous, planned process.

Our latest technology is MG360, a payment system platform that interacts with banks and merchants to handle their operations and security requirements. All of these technology companies are solely our own concepts and purely built in-house by EDX Labs, the engine powering each innovation.

Think of EDX Labs as not just an R&D company but a turbo-charged accelerator. We want to encourage and facilitate any software technology idea that has the potential to scale globally, and service customers from all over the world, be it USA, Australia, South Africa, Taiwan, anywhere you can think of.

What have been some of the biggest challenges along the way?

Behind everything we do, it is the passion and the mindset that questions and asks, "Why not? Why can't we do this?" When Hotmail first started and everyone was so excited about it, I was thinking, "Why can we not have our own email service from here, that the rest

of the world can use." For me, that's the struggle. We need to believe in our own abilities in order to succeed.

Finding the right talent locally is a challenge but it's possible. The real challenge lies in finding the right attitude and passion that makes people look for opportunities in difficulties; people who believe they can find the answers. If you ask me, this is the biggest obstacle – the people challenge. So I would say, we have the internal people challenge where within the organization we need those who believe we can do it; and then there is the external people challenge where we need people who believe that a locally-based technology company can provide the technology they need and also be at par with the rest of the world front runners.

We want EDX Labs to be an example of what needs to be done. We want to build a culture that encourages this mindset and thought-process. EDX Labs is exactly that; It represents this positive growth-culture.

It is generally agreed that Bahrain's ICT sector is amongst the most progressive in the region. What is your outlook on the sector and what have been the main areas of growth in this field that you have been a part of?

I have benefited from Bahrain's growth and its progressive attitude. This is what makes Bahrain at the forefront, when it comes to technology, Fintech, and the Fourth Industrial Revolution. Whether they are trying to be the first to create a Fintech sandbox, digital currency exchange, or digital banks and so many other initiatives, they have always taken the lead. Bahrain was the first government in the region, I think, that has positioned Cloud First as a strategy. Prominent entities such as Bahrain iGA and Mumtalakat have successfully been migrating to the cloud, proving to be a model for the rest of the Arab World. We also see Amazon making their Middle East point of presence in Bahrain. All of this is incredibly enabling, and I have to say that much more than driving growth in the public sector, they are also supporting and influencing an entire ecosystem - including us. That is why we wanted to acknowledge the amazing opportunity we have here and say, Thank you Bahrain!

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What are your thoughts about the Fintech industry and its unprecedented growth with regards to Bahrain?

From a global perspective of where technology is going, we are at an excellent position in Bahrain. There is a lot of hype, and we can anticipate that there will be a lot of ups and downs. But in the end, we know there will be success and hopefully, Bahrain will have some of the leading fintech companies in the region.

It is also important to understand that 'Fintech' doesn't mean just digitizing something that you are already doing, it is rather about coming up with a new and better business model to work with. There's a big difference between enabling something with the use of technology and developing a new operational/business model that is completely different from how it was originally. If you do that correctly, you can succeed and go on to the next level.

This is something which I term as 'Techfin', which is not to be confused with Fintech. Fintech is when a financial company tries to leverage by adopting technology to do whatever it is already doing. Techfin, on the other hand, is when a technology company starts operating as a bank or financial institution. When Apple, Amazon or Alibaba move out of their comfort zone and into the banking/financial field, they are reaching out to a much larger global clientele. Conversely, when a bank adopts new Fintech technology, it is only reaching out to their existing customers within their current business zone, they are not thinking of customers around the globe. In my opinion, more than Fintech, it is Techfin that will succeed and have greater success.

Is there a way for countries in the region to work together to leverage ICT strengths and mutually benefit?

We don't have a choice. If we want to succeed, all of us in the region will have to coordinate, collaborate and leverage. You see, globally no company, no country can survive if they don't. This is where I have another strategy/philosophy. I call it the B3 (B-Cube). Any organization for future success has to think of how to remove borders, branches, and brokers to achieve exponential growth in their business. If you don't, you are limiting your ability to go global. On the other hand, when you do that, you inevitably enable the three E's - efficiency, economy, and equality. We have seen some great instances of this in recent times. It means that you democratize things, like for example, somebody who was not able to get into the hotel business before, can do so now with Airbnb. Somebody who was not in the taxi business is now enabled through Uber or Careem. Of course, theorizing is much easier than executing, but we ourselves are practicing it, and it is the way good companies can go on to achieve greatness.

You have talked about the Cyber Blind Spot in an earlier interview - can you update us on what's happening in that area.

This is one of my focus areas personally right now. We want to reach into and build Artificial Intelligence engines and the starting point would be to acquire a lot of data. Cyber Blindspot is all about cyber threats specific to your organization in cyberspace, which you might not be aware of. So, the first thing it does is collect and aggregate intelligence data from all across the globe, and then processes the data to identify what is relevant or specific to an organization.

A prime example - digital certificates being issued by different issuers; We identify & collect them continuously within a very short span of time. Within those digital certificates, we sometimes find bogus ones issued either on a company's look-alike name or domain. We can tag each to an organization, but that requires us to know all organizations first and profile them. We have already profiled all the global banks based on information in the public domain, including 4600

commercial banks across 193 countries. By profiled I mean, we have a database of all of them, which includes their domains, social media profiles, mobile apps and so on. This acts as a whitelisted inventory and a reference point to map threat intelligence data to each specific organization. This is what we are building right now and just one step for us in the space of Big Data and Data Analytics.

Our goal now before the end of next year is to profile 1 million global organizations, which includes all global government bodies, all major healthcare, insurance, hospitality, airlines, everybody! This process will give us enough data points and data to train the machine. Once we deploy machine learning we can move to the next level of AI where the system will train itself and keep on identifying attack data relevant to an organization in real-time. The real AI is when the technology itself learns to think and evolve. If you have built the technology that is self-corrective, that is real AI.

The goal seems very ambitious. How doable is that?

If you don't think big, how can you achieve it? This is what I tell my team too. Know that your horizon today is the starting point of tomorrow. Whatever point you reach, think of it as only 10%, then think of the next 90%. You have to always be thinking bigger and pushing your goals. When Google was making its search engine, were they even imagining what they are today? Or take Amazon - when Jeff Bezos started a simple bookstore, did he imagine what it would become? Or Elon Musk, when he was planning his first electric car, was he imagining all that he would go on to accomplish? Recently, his second batch of 60 satellites went up as part of the Starlink program. By the end of the year 2020, he will have 12,000 low orbit satellites which will cover every point on the globe, and this will provide internet access for any and everybody.

There is no limit. Humanity is at the edge of exponential growth like nothing we have ever done before. If you look at the three industrial revolutions before, and you look at the scale of growth today, it is like a thousand times more, and the time frame in which it will happen will be a

thousand times shorter in the future. The pace of innovation and growth is mind-boggling. There is no end. The horizon keeps moving, keeps expanding.

You recently published an article on the importance of DMARC and how it may help companies in certain legal matters, can you elaborate further

DMARC enables digital signatures on all your emails at the mail server level before leaving your organization. Now take this case, for example, if somebody commits a fraud, impersonating your email, you should be able to place controls that will enable the receiver to verify if it was your genuine email or not, which can be done by the DMARC framework. If you do not enable it, you become responsible for this weakness due to which a third party may fall into a scam. That third party can now come and hold you responsible, stating that they were scammed by your email address, and since you didn't have enough email

security, you are partly liable as well. Hence I call it the DMARC liability shift. This is what will happen when you go for a legal case. There are many situations where people have been scammed out of their money because a fraudster intercepted the communication between a buyer and seller. The buyer thought he was paying money to the vendor from whom he intended to purchase, but ended up financing the fraudulent account. Next thing you know, both parties end up fighting a legal battle over it. If either party had implemented DMARC, they stand a better chance to win the case in their favor.

Where do you see Bahrain's role in the 4th Industrial Revolution and how will EDX Labs contribute to this movement?

The primary purpose of EDX Labs is to help the Arab world to play a big role in Industry 4.0, especially in Bahrain, it has to be at the forefront. Bahrain has already done so much and I am pretty sure it will

continue to build on that. Bahrain reflects this through its many initiatives, such as entrepreneurship events, digitalization, start-up communities, incubators, accelerators and much more; therefore, at a national level, Bahrain is already pushing for it. Also, because Bahrain is small, it is agile. Being small has given it that competitive advantage to move at a very rapid speed. When we leverage it properly, it puts us at the forefront. It requires a lot of reframing of regulations to adopt new technologies, but the country is on the right track to achieve all that and more.

You are a classic example of an entrepreneur facing challenges and making it work. At the end of the day, from your own experience, what do you think existing businesses owners should know before launching a start-up?

If you are currently running a corporate business and want to participate in the current revolution through a startup or a digital transformation initiative, you need it to be independent of your current business. I always say this, even if people don't like it. The biggest challenge to digitize is not cybersecurity, it is job security. People use cybersecurity as an excuse not to move on to newer technology, or on to the cloud, because the current staff who are managing it are not willing to adapt to the new technology. They assume that if they migrate towards this direction, they will lose their jobs. This mentality can be seen all across an organization from top-level management to low-level officers. This is the biggest hurdle, but if it can be managed, organizations can enable themselves towards the new digitally transformed society.

I would say, if a current enterprise wants to build a start-up, you've got to make sure you are setting it up as a separate unit with different people than your existing business. The probability of success will be much higher. If you do it with the same people, even though they may seem ambitious, in my experience, it is often difficult for them to get out of their comfort zone. We build machines, but don't want to become machines. The thing is, these people who are afraid of losing their jobs aren't thinking of all the possibilities to reach out there. This is

the challenge. They need to understand that this is a reiterative process to build more technologies. This is clearly stated in a WEF report where they say millions of jobs that will be lost due to digitalizing the economy, but they also say that millions of new jobs will be created. So the question to ask is, are you ready for it?

Can you give us a quick brief on what Penetration Testing is and what Pentest360 is all about?

Penetration testing is simply trying to hack your systems in order to find the weaknesses so it may be fixed. Each of the technology platforms that we are building cater to the 3 B's I mentioned earlier. We need to cut out the Branches, Brokers, and Borders. The idea is built on the assumption that we can sit here and service globally. When we look at PENTEST360 – we want to build a platform that will have service providers on one side and customers on the other. We see it as becoming the Uber of pen-testing. We have created a unified platform, or a bridge platform giving you the entire knowledge base and rules along with a buildable pentest scheme. This is based on a constant 365 days pentest and not at a specific point in time, like it is done traditionally. For example, some companies will do one or maybe two pentests a year, but because technology changes so fast, we need pentesting to be done 365 days a year. There are certain things to test on a daily basis, certain things on a monthly basis and so on. Technology will manage most of the workload which eventually would require manual supervision.

What about MG360? How does it add value to your complete package of technology services?

MG360 looks at several aspects of handling security requirements between merchants, banks, and regulators. Firstly, it deals with onboarding merchants for new or existing payment systems. Secondly, it ensures compliance of the global security requirements and standards by merchants. Lastly, it trains and certifies merchants along with their staff on payment system usage as well as secure practice. Through one platform, we provide these three core services, and much like any other platform, it is crucial

to register every single merchant.

Let's say we are in a specific country, all gas stations, stores, vegetable vendors, everybody should be embodied on our platform! We need to onboard everybody, and all their staff including the cashiers so that we can train them on any payment system. Since we are connected with all merchants, we can present them with this - Here is a new payment system, this is how you get on board, we will train your staff and here is the compliance certification. It is a complete package.

In effect, we become the platform where the merchants, payments systems, regulators - everybody can come onboard and seamlessly collaborate. We are not limiting it to one POS vendor or payment system. We are building across the globe, and it can be any vendor or any customer.

What's next in your plans?

Today, these are my own companies, but I am not building anymore. The next goal is to foster a healthy environment and innovative culture. What we will say now is, "Who wants us to help build it?" By next year, we will start looking for anyone who has an idea that can go global, and we will be there to support their vision. We will start adopting companies, supporting founders who have an idea that can scale globally and help them build the technology and market it.

My future lies with this country. I have been committed to Bahrain, this is my home. It is the place for me and can see no better place than this to live and do business. The ease of doing business, facilities as well as support from the public sector and ICT community is unprecedented; you would not have it as easy anywhere else. Organizations such as EDB, IGA, Tamkeen, LMRA offer continuous support that simulate innovation and growth within the country. The pace at which regulatory bodies are rolling things out, how they have brought in Amazon, it's all quite amazing and creates a climate of growth and development. In our very own everyday business we experience the benefits. We have shifted so much of our technology onto the Bahrain Amazon cloud. It is here so let's start using it! I feel a deep sense of gratitude to look forward and see all the possibilities that lie ahead. These are truly exciting times!   ⑮

OPTIMISING THE DIGITAL TRANSFORMATION

T here is no contesting that we live in a region that is comfortable with technology and is firmly at the forefront of emerging technologies like Artifical Intelligence, data analytics and the adoption of cloud technology. General Manager of GBM Bahrain, Abdulla Ishaq talks about the growth of the business in the Bahraini market and what Bahrain's digital transformation signifies.