Natalie Miller

XRGlobal

INSPIRING
FEMALE
FOUNDERS

Introduction

When Virginia-born Natalie Miller graduated from Syracuse University in 2001, she didn't have a clear career path. Her father reassured her, 'Don't worry. Your job hasn't been invented yet.'

Two decades later, Natalie is the co-founder of XRGlobal, a company delivering transformative VR-based training in sectors ranging from agriculture and finance to vocational education and gender empowerment. XRGlobal has reached over 128,000 people across four regions, working in 14 countries – many of them remote, low-resource environments where digital literacy is low and infrastructure is patchy.

What makes her story remarkable is not just the reach, but the way it's been built: no formal funding round, no wealthy backers, no blueprint – just insight, resilience, and a refusal to settle for 'good enough' in global learning.

From the start, Natalie set out to build a company that could serve both social and commercial goals – a hybrid model full of promise but also risk. Impact-driven businesses often struggle with mission drift [1], where money pressures pull them away from their purpose. At the same time, attracting capital from investors unfamiliar with the realities of emerging markets can also create misalignment and missed opportunities.

Can a company that trains low-literate farmers in rural Mozambique also win contracts with financial institutions in Nairobi? Can a bootstrapped venture working with development agencies persuade commercial investors it's a scalable play? And can a nonprofit-rooted founder walk the tightrope between legitimacy in the social sector and credibility in the tech world?

These aren't side questions. They are the heart of XRGlobal's story.

From medical missions to market gaps

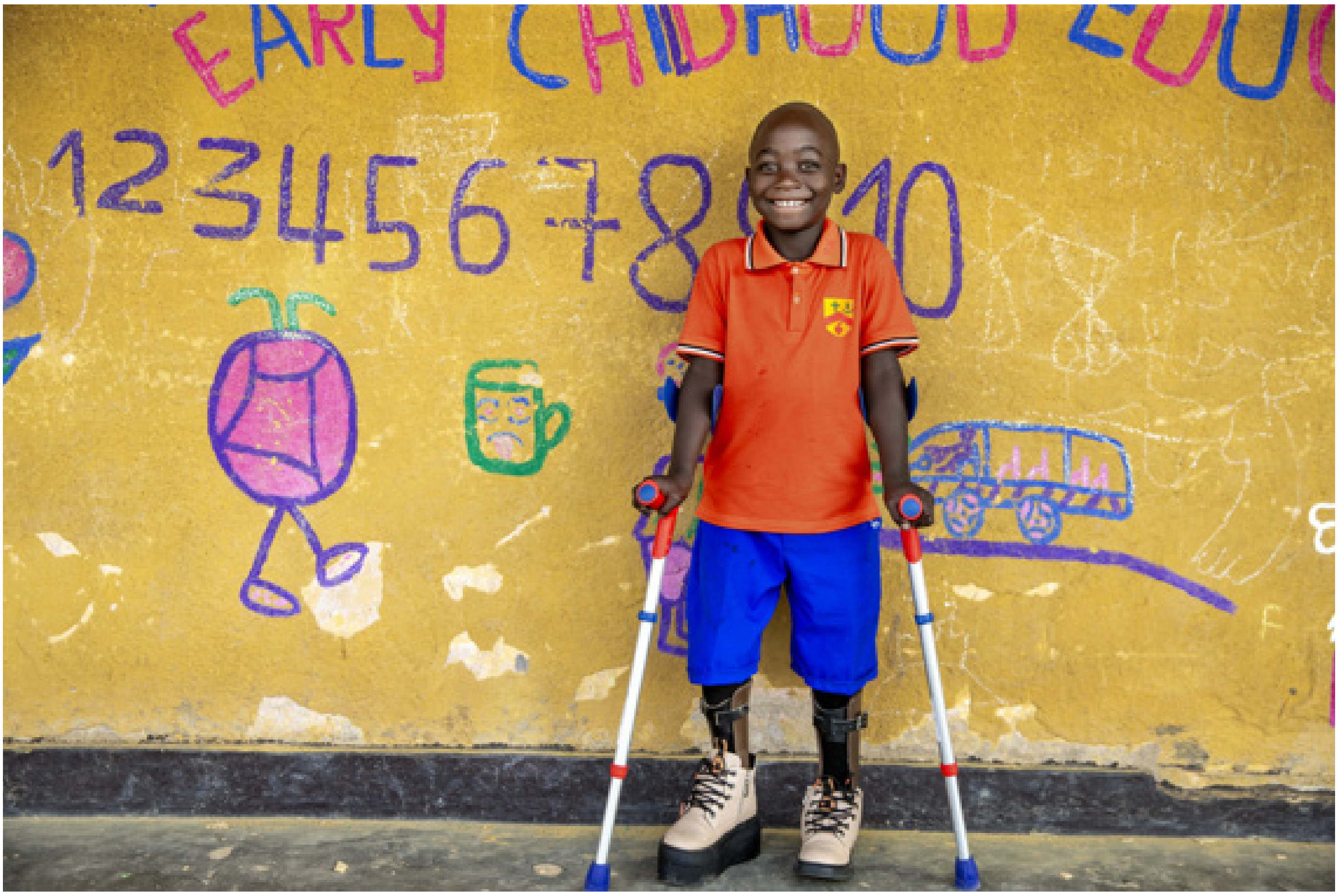
Natalie's career didn't begin in Silicon Valley or a tech accelerator. It began in hospitals and humanitarian zones, where she coordinated medical missions for children with cleft lip and palate. Fresh out of Syracuse University in 2001 – with a dual major in broadcast journalism and history – Natalie knew one thing: the newsroom wasn't for her. 'Honestly, I was never very good at broadcast journalism,' she admits. Her heart wasn't in it.

A semester abroad changed everything. In her junior year, Natalie joined Semester at Sea, traveling the world on a ship with students, professors, and their families. In Turkey, she and her friends camped out with emergency workers in Düzce, a town devastated by a major earthquake. She spent her days helping rebuild and shadowing the head of Red Cross Red Crescent. 'I followed him everywhere, just asking questions,' she said. It planted a seed.

The summer before graduation, she interned with CNN. Her producer offered her a job, knowing she was itching to travel. He connected her with the head of CNN & TIME in London. After backpacking across Southeast Asia, the plan was to move to London and start her media career. Then came the AOL-Time Warner merger – and the show was canceled.

Natalie was in Sydney when she got the news. Rather than head home, she stayed. She tried – unsuccessfully – to land a media job. Nobody would hire a fresh American graduate with a four-month visa. She waitressed, learned to surf, and eventually, as her funds ran out, took up her father's advice to stay with a family friend along the east coast. Over dinner, they asked her what she wanted to do with her life. 'I want to work with people from different cultures,' she said. 'And I want to feel like I'm making an impact.'

[1] Mission drift refers to the gradual shift away from an organisation's original social or public-interest mission, often due to financial pressures, investor expectations, or strategic pivots. For more info, pls see: Ebrahim, A., Battilana, J., & Mair, J. (2014). *The governance of social enterprises: Mission drift and accountability challenges in hybrid organizations*. Research in Organisational Behavior, 34, 81–100.



A local boy with his leg prosthetics from Operation Smile in Gisenyi, Rwanda.

They told her about Operation Smile, a global NGO that provides free surgeries for children with cleft lip and palate. They showed her a photo of a woman named Soledad, who had walked miles to a mission site in the Philippines carrying her youngest child, seeking surgery for a 35-pound tumor. Natalie was moved. When she got home, she applied.

She joined Operation Smile in 2002. Her first job involved coordinating medical missions across Asia and Latin America. By age 22, she was leading international teams of surgeons, nurses, and therapists, negotiating directly with government ministries across Asia and Latin America. It was not glamorous. It was scrappy, exhausting, and transformative.

Everything changed when she was sent to Kenya – at that time, the only African country where Operation Smile operated. There, she saw need on a scale she hadn't encountered before – and an opportunity. She pitched a plan: open a regional hub in South Africa to expand across the continent.

The organisation said no. Natalie quit.

While pondering what to do next, she made a stop in Hawaii as a volunteer surgeon friend had invited her to HELP, a course on health emergencies in large populations run by the International Committee of Red Cross. She stayed in a dorm and networked with senior military and humanitarian leaders. Just before she left the island, Operation Smile called her again. 'Okay,' they said. 'You can open South Africa – if you spend a year working for us in China first.'

So Natalie found herself in Hangzhou at the age of 24, with no Mandarin and no prior experience in China. She thought finding a place to live was a test of her persistence, but the real test came after. She was tasked with obtaining regulatory approval from Chinese authorities for scheduled drugs and medical cargo – a job that would challenge even seasoned professionals. Slowly and painfully, she figured it out. She navigated opaque bureaucracies, asked questions when she could, and leaned on instinct and diplomacy when she couldn't. 'I'd never even been to mainland China,' she says. 'And they thought I was the best option. I figured if I could do that, I could do anything.'

That determination carried her forward. Once back in the U.S., she understood that Operation Smile would let her launch South Africa, but not give her a formal budget. So before going there, she built her own runway – starting with her hometown.

Back in Virginia, Natalie knew the Alexandria community well. She organised a high-profile fundraiser at the Torpedo Factory on the waterfront of Old Town Alexandria – a venue donated by the mayor. She personally secured a guest list that included Senator Mark Warner, Congressman Jim Moran, and the South African Health Attaché. She worked every connection she had, enlisted friends and family, and leaned into the story of what could be built. That night, she raised $40,000. It was enough to get started.

With the money in her pocket, Natalie moved to Johannesburg. Over the next three years – from 2006 to 2009 – she and her team expanded rapidly, opening programs in South Africa, Eswatini (then Swaziland), Madagascar, Lesotho, the DRC, Namibia, and Rwanda. They worked with ministries of health, secured in-kind donations from hotels and airlines, and operated mostly through local partnerships.

Early traction came through her global network. Former colleagues from China introduced her to local decision-makers at Grant Thornton, Amway, and Citibank. But interest didn't translate into action – so she hustled. She sent weekly updates: new medical volunteers recruited, meetings secured with ministries, surgeries scheduled. So when budgets eventually opened up, they called her.

Partnerships followed. Grant Thornton gave office space in Johannesburg's CBD. Saatchi & Saatchi came on board as a full pro bono

Natalie with Operation Smile in 2009.

client, bringing PR firms with them. Protea Hotels donated rooms. DHL and Hellmann Worldwide Logistics shipped medical cargo free of charge. The partnerships deepened into relationships. Executives joined missions, donated personally, and invited their networks. 'We made them feel part of the story,' Natalie said. 'And they stayed.'

By the time she left for Oxford in 2009, Operation Smile South Africa had launched in 14 countries. But even as the impact scaled, one frustration nagged at her: training didn't scale with it. Whether training nurses, local coordinators, or new program managers, the experience was ad hoc and difficult to monitor. 'We were ticking boxes,' she said. 'And I knew we could do better.'

While pursuing her MBA at Oxford (2010–2011), Natalie took on a 3-month strategic consulting project with Zoona, a young Zambian fintech. She lived in a cottage behind the house of CEO Mike Quinn, helping build the early agent network. It was hands-on, gritty, and deeply informative.

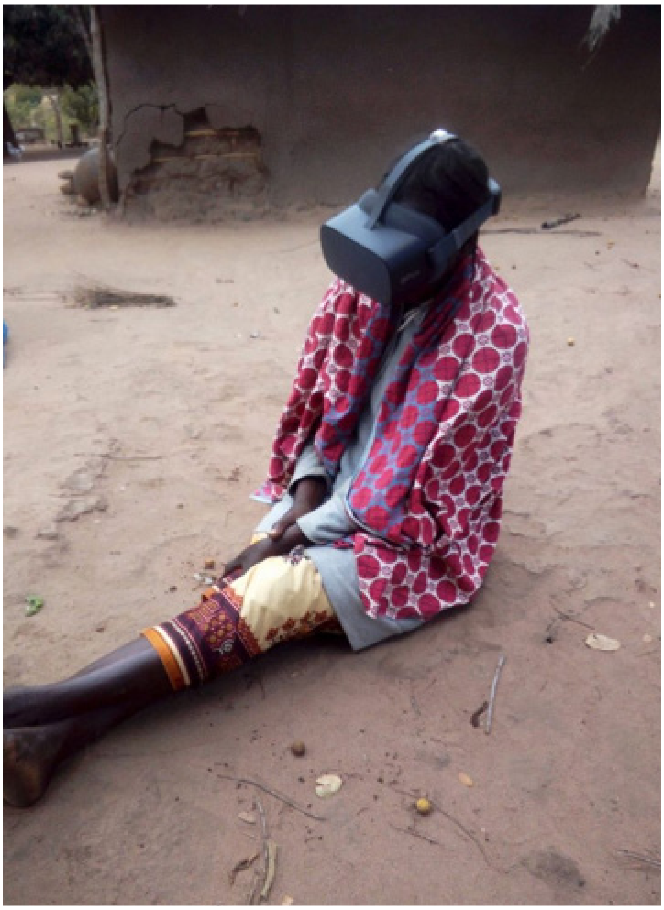
After graduating, Natalie didn't immediately jump into a new role. Instead, she entered a phase of deep immersion in Africa's social impact ecosystem. From 2011 to 2013, she returned to Operation Smile as Vice President for Africa and Global Head of International Business Development, further honing her skills in multi-country coordination, partnership building, and cross-sector strategy.

Between 2014 and 2016, she transitioned into independent consulting – working with major

INGOs including Greenpeace Africa, Oxfam, Save The Children, MSF, Amref, and several local social enterprises. Each assignment gave her insight into the common organisational bottlenecks that plagued large-scale, mission-driven efforts: fractured training systems, poor data flow, and donor-driven distortions.

At the same time, she became the first Africa Lead for the Global Impact Hub Network, launching the Africa Seed Program to support locally-owned entrepreneurial hubs in eight countries – among them Mali, Sudan, and Zimbabwe. These ventures brought her closer to grassroots innovation and gave her a clearer understanding of how digital tools could either empower or overwhelm communities.

In 2016, Natalie rejoined Zoona – now a high-growth fintech – as Head of Expansion and later Head of Commercial, to take the business into new markets, refine the commercial model, and ensure that agent networks remained functional as scale increased.



XRGlobal financial and digital financial literacy training in Mozambique, supported by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).

But the same training issue resurfaced. Zoona relied on 'super agents' to onboard and train new recruits. Sometimes that training lasted 30 minutes. Sometimes, five. Paper assessments rarely made it back to HQ. 'We had no visibility into what people were actually learning,' Natalie said. 'And yet our whole model depended on them understanding the product.'

After leaving Zoona, Natalie became CEO of GreenFingers Mobile (2018–2019), an agritech platform connecting smallholder farmers to large buyers like Nando's. Again, she saw how training bottlenecks hurt results. Extension workers tried to deliver instruction, but the learning outcomes were inconsistent and hard to verify.

It was at the Africa Agri Investment Indaba, while leading GreenFingers, that Natalie met her future co-founder, Bryan Crosswhite. Bryan had led VR implementations at a major U.S. training firm and believed VR could work in low-resource settings. The conversation triggered a flood of memories: agents poorly onboarded in fintech, farmers lost in jargon-heavy training modules, volunteers left without guidance in disaster zones.

'If we'd had access to this technology,' she thought, 'it would've made a tangible difference.'

That was the moment XRGlobal began to take shape.

Designing for the last mile

The path to designing XRGlobal's last-mile solution wasn't a straight line – it took trial, error, improvisation, and persistence.

Natalie and her co-founder believed VR could transform learning for underserved populations. Their first test came with USAID's Feed the Future initiative in Rwanda, needed better ways to train agri-dealers.Traditionally, USAID flew trainees to Kigali for 3.5-hour PowerPoint sessions – covering hotels, meals, and per diems – without ever measuring impact. When asked to assess efficacy, they brought in XRGlobal.

In a real-world comparison, one group followed the classroom model while another received the same IFC content via a 30-minute immersive VR module. In VR, trainees could explore a virtual shop, handle products, check expiration dates, and practice inventory management.

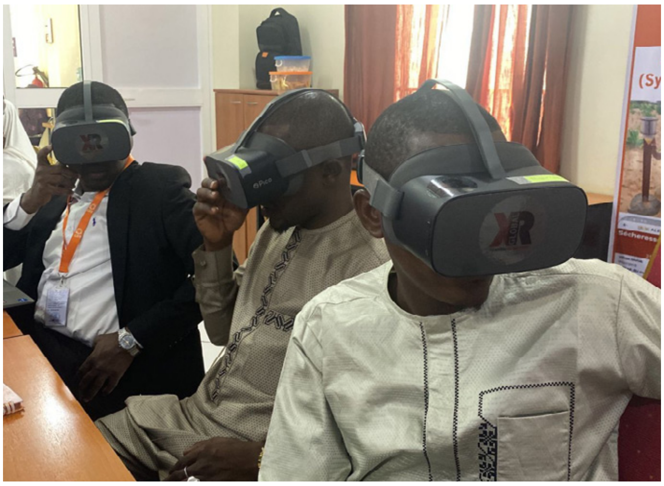
The results were stark: 5% knowledge increase in the classroom group versus 45% in VR. Learners saved time, data showed clear impact, and feedback was overwhelmingly positive. 'Females particularly appreciated being able to learn in their own time and space,' Natalie says. 'No classroom pressure, no distractions, no phones buzzing. Just full immersion.' Convinced, USAID kept XRGlobal on for the rest of the project.

It was a breakthrough – but also the beginning of many operational challenges.

Shipping headsets across borders was necessary, but quickly proved impossible: customs was slow, costly, and unreliable. 'We actually never did it for that reason', Natalie joked. Instead, they decided to hand-deliver every headset. For each new deployment, a team member flew in personally – with headsets packed in their luggage – and used the visit to conduct on-site training with local facilitators. It was scrappy, but it worked. Only later, as the company scaled, did they begin stockpiling equipment in key markets to reduce delays and decentralise access.

Issues did not stop there. In Niger, government rules stopped XRGlobal from filming 360° video, so they trained local videographers instead. Rising security risks kept trainers from rural areas, so VR became the bridge – farmers still received consistent, immersive training even when travel wasn't possible. In Mali, the challenge wasn't electricity but the logistics of setting up and maintaining remote hubs.

Content and context brought more lessons. 'In Rwanda we first discovered that women in particular liked training in VR as it allowed individual learning,' Natalie recalls. 'With the headset on, they felt privacy and dignity.' The solo immersive experience empowered learners often shy in classrooms.



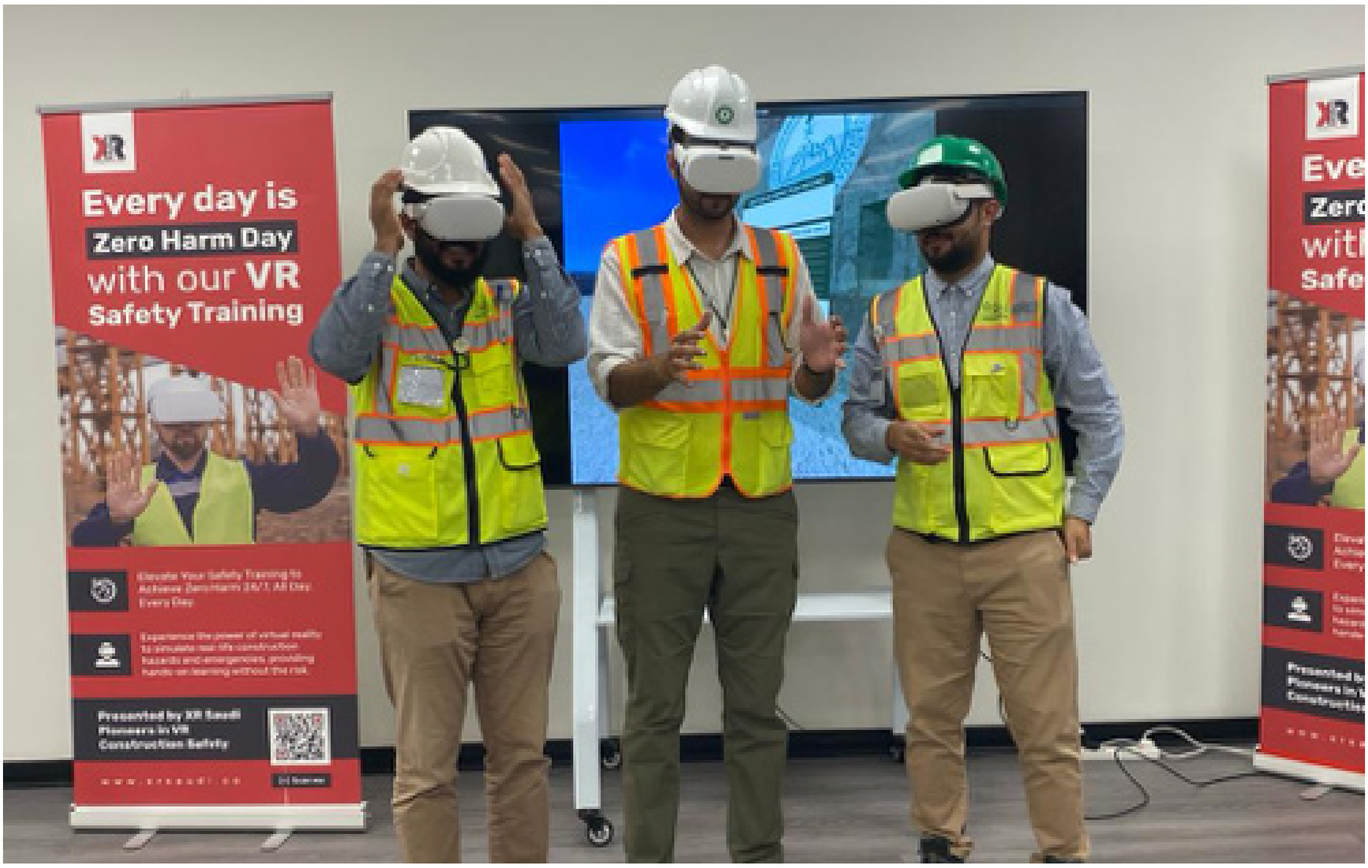
Training of trainers with a large group of now 'expert virtual reality facilitators' at CARE International in Niger, ahead of the Smart Agriculture VR Training rollout to farmers across the country.

XRGlobal adapted constantly: training 'champion agents' for cultural alignment, localising content beyond language (dialects, tone, shop signs, product labels, uniforms), and embedding programs into trusted institutions like microfinance groups and cooperatives. 'We didn't want to build new structures,' Natalie explains, 'We wanted to fit into the fabric that was already there.'

Headsets evolved too – controller-free devices, simple for users with no digital literacy. A lease-to-own model bundled hardware, software, and support. Since VR cut a 3-hour class to 30 minutes, one headset could serve ten users daily, enabling real scale.

Over time, XRGlobal expanded into agriculture, digital finance, insurance, gender empowerment, and vocational skills – across Mozambique to Asia's microbanking sector. A MasterCard Strive study found 86% of learners preferred XRGlobal's VR modules to traditional or online training.

The last mile, they discovered, wasn't a destination. It was always shifting – demanding humility, flexibility, and constant adjustment. But it was also where their technology made the most difference. 'It's where we were needed most,' Natalie reflects, 'and where we could prove that innovation didn't have to be reserved for the wealthy.'



World Vision Programme in Rwanda (top), Construction safety training in Saudi Arabia (bottom).

Profit or purpose? The dual tension

From day one, XRGlobal was built as a B2B business. Whether the clients were development agencies, DFIs, or corporates, someone was always paying. The goal was clear: deliver high-impact VR training to underserved populations – but do it through scalable, paying partnerships, not direct-to-consumer models. The idea was to build a platform that could bridge sectors: mission-aligned in purpose, commercially viable in delivery.

But straddling those two worlds proved harder than expected. Corporates in Africa, Natalie found, are often slow to innovate. 'They're still stuck in old-school classroom training. Their budgets are small, and they struggle with change management,' she explains. In contrast, development agencies were quicker to recognise the value of VR in addressing systemic training gaps or at least pilot it and learn for themselves. Organisations like USAID and Germany's main development agency, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) began incorporating VR modules into agricultural extension programs, gender equity campaigns, and even safety training in high-risk zones.

To Natalie, the dual approach made perfect sense. After all, both groups spent billions annually on training – and both faced challenges that XRGlobal was uniquely suited to solve. But to investors, this versatility raised red flags. One foundation-backed VC accused XRGlobal of being 'too nonprofit-heavy,' despite the company drawing revenue from training budgets, not philanthropic grants. Another questioned the company's logic of targeting both low-income rural learners and corporate onboarding teams.

These questions cut deep. 'We were being told our model didn't make sense,' Natalie says, 'but it was the reality of our markets that didn't make sense to them.' One investor even asked: 'Isn't it like using machine guns to kill ants?' – missing entirely how powerful VR could be for low-literate users. 'What they don't understand,' Natalie explains, 'is that many of our trainees can't read. VR activates all four learning pathways. We use color-coded assessments, voiceovers in local languages – this is the kind of tech that finally makes learning accessible for the people who've been left out.'

To add to the tension, much of XRGlobal's most impactful work – like training female farmers in the Philippines or upskilling youth in rural Mozambique – produced incredible social returns but didn't generate investor-style margins. 'It's not that we aren't profitable,' Natalie clarifies, 'it's that we're profitable in a space investors still don't know how to read.'

Natalie at Africa Tech Festival, 2024.

Bootstrapped, burned, and building anyway

For Natalie Miller and her team, the path to growth has been paved with both breakthroughs and heartbreak. After gaining traction with development agencies and running successful pilots, they entered the investor circuit with cautious optimism. Over six months, Natalie secured commitments from high-profile angels and a term sheet from one of Africa's most respected edtech venture funds.

They celebrated internally, announced the upcoming round, and began building plans around the promised capital. It felt like validation. But it didn't last.

'The lead investor pulled out after six long months of due diligence,' Natalie recalls. 'They told us to announce the investment, and then they pulled out at the very last minute. They said we lacked a proven subscription model – even though the funding itself was meant to help us build that model.'

The collapse wasn't just a funding disappointment – it shook XRGlobal's momentum. Natalie had diverted months of her time away from business development to fundraise. The pipeline was full. The opportunity was real. But once again, the mismatch between investor expectations and real-world impact derailed the plan.

Even so, XRGlobal kept going.

They turned to partnerships. They joined forces with local training providers through revenue-share deals, adding regional expertise and language capability. Hardware delivery was refined: instead of leaving it to clients, XRGlobal began offering lease-to-own programs that ensured support, stickiness, and recurring income.

Natalie with participants at a CARE-led Adaptive Social Safety Nets training in the Sahel.

However, not all partnerships went as planned. A new agreement with Stellenbosch University to license and scale STEM-based VR training created by doctoral researchers was put on hold while they focused on paid client work. 'This is the continuous struggle where we can't focus on development that will help us scale, because we have to do work that pays the bills today', Natalie laments.

They also restructured logistics for sustainability. Solar-charged power banks were introduced in West African rural areas, where electricity supply is unpredictable. In Malawi and Fiji, ministries of education are now exploring national adoption of VR for remote classrooms – offering students their first exposure to science labs, geography lessons, and even virtual travel beyond their village.

Over 50,000 learners were trained in the 18 months following the failed investment round.

'There's this myth that growth depends on capital,' Natalie says. 'But when the mission is clear and the need is real, you don't stop building. You get scrappier, smarter, and more aligned with the people you're here to serve.'

Today and tomorrow

Since launching in 2019, XRGlobal has trained over 128,000 users across 14 countries. Its client base includes major global development institutions such as the Asian Development Bank, GIZ, the World Bank, the MasterCard Strive Community, and the (former) USAID. The company's training content spans a wide range of critical sectors, including agriculture, financial literacy, youth skills, gender inclusion, vocational training, and workplace safety. In a MasterCard evaluation, 86% of trainees reported preferring XRGlobal's VR to traditional methods.

Most recently, XRGlobal has rolled out programs in partnership with CARE in Niger and Mali – covering soilless agriculture, climate-smart farming practices, and post-production techniques tailored to rural learning environments. In Mozambique, they've piloted gamified agricultural training designed to engage low-literate youth through VR storytelling. And in the Philippines, they developed disaster risk preparedness and microinsurance modules for smallholder farmers and cooperatives – funded by USAID's Feed the Future initiative, though payment remains pending.

While a project with Fiji's Ministry of Education is still in the contracting phase, it marks another milestone on XRGlobal's horizon: national-level deployment of vocational VR training for women in remote island regions. An additional rollout with a major East African bank remains in the discussion phase – showing a common challenge for XRGlobal and other impact ventures. 'These sales cycles can stretch for years,' Natalie explains. 'They often require full alignment across leadership, comfort with disruptive technology, and a shared understanding of the long-term benefits. That's a high bar when you're trying to drive systems change.'

As XRGlobal looks ahead, several strategic questions surface – each offering a potential path forward, but all shaped by one stubborn reality: time.

Natalie with her Wired4Women Tech Innovator Award, South Africa, 2025.

Long sales cycles remain one of the company's most persistent challenges. For institutions to adopt XRGlobal's VR training, they must first embrace the unfamiliar. That means months, often years, of internal change management, stakeholder alignment, and executive buy-in. 'It's not that the value isn't clear,' Natalie explains, 'it's that transformation doesn't move on startup timelines.'

This disconnect raises a deeper question: Should XRGlobal continue working with clients whose impact potential is high – but whose pace is slow? Or should it reorient toward sectors where decision-making is faster, even if the use cases are less urgent?

Funding decisions are equally fraught. Should the company continue bootstrapping to retain its independence, or partner with impact investors who promise capital but come with their own timelines and expectations? 'The wrong money,' Natalie says, 'can pull you away from the very communities you're here to serve. Large grants or investors sometimes come with strings attached: growth expectations, reporting frameworks, or success metrics designed for donors rather than end-users. A funder might want scale at the expense of depth, or push for quick wins that ignore the slow, relational work of building trust in rural communities.' Yet growth without funding means slower innovation, longer ramp-ups, and a constant juggling of priorities.

Then there's the scale-vs-depth dilemma. XRGlobal could productise its most effective training modules, building a standardised content library for global use. That path favors scalability, recurring revenue, and tech-sector metrics. But it risks flattening the nuance that makes the training so effective in the first place. Alternatively, continuing to co-develop localised content with partners in the field ensures relevance and impact – but demands more time, customisation, and personnel.

And above all, the identity question looms: Is XRGlobal a social innovation firm? A hardwareenabled SaaS company? A B2B training platform for the underserved? Each of these labels brings different expectations, and none fully captures the hybrid nature of the business.

These tensions are not side issues – they are the heart of what it means to scale a hybrid venture. Oxford Saïd Professor Marya Besharov's work[2] reminds us that these tensions don't resolve themselves with growth – they must be actively managed as organisations scale.

XRGlobal sits squarely in that space – between urgency and patience, scale and specificity, commercial sustainability and mission clarity. The choices ahead won't just shape its business model. They will determine whether the company can stay true to the problem it set out to solve.

Louise Hill's advice to new entrepreneurs:

1. **Being a founder requires you to wear many different hats at once.** 'Any founder could be painting the office walls one minute and speaking to the financial regulator the next.'
2. **If you want to scale, build to scale from day one.** 'If you think about scaling in two years, after you've already found product market fit and a few customers, it's too late. If we hadn't raised funding at the beginning, we would have had to do everything in the business ourselves. Funding early-on helps you scale quickly.'
3. **Work with world-class partners from the beginning.** 'It's attractive to do things cheaply at first. However, if you go with a cheaper provider, or a bundled provider, it is hard to unplug elements and move them around later on when you learn more through market testing.'
4. **Persistence and determination are crucial to strive as an entrepreneur.** 'These qualities help maintain the focus on the destination of your journey rather than specific paths to success. They also help keep the momentum through challenging situations such as generating business ideas, operationalising business models, creating teams, and securing funding.'
5. **Choose your funding tools and sources timely and wisely.** 'Crowdfunding is an effective tool to raise funds when leveraging a B2C proposition with an emotional buy-in. Effectively, it's an opportunity to build a community around your venture. However, you need to be ready to commit substantial team resources to stakeholders and information management.'
6. **Be up-to-date with regulations.** 'Think about the regulatory structure of the markets you operate in or plan to expand to - you may discover opportunities that others have yet to uncover.'
7. **Do not take 'no' as an answer.** 'If I really believe in something or if I really want to do something, a 'no' doesn't mean that's the last you've heard of me. I gather more information and circle around to present more valid arguments to back my thinking.'

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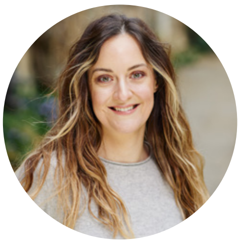
[2] Smith, W. K. & Besharov, M. 2019. Bowing before dual gods: How structured flexibility sustains organisational hybridity. Administrative Science Quarterly, 64(1): 1-44. Besharov, M., Miner, K., Wunsch-Vincent, S., & Grewal, A. K. 2024. Unlocking the promise of social entrepreneurship. Global Innovation Index 2024. World Intellectual Property Organisation, Geneva. Please see www.sbs.ox.ac.uk/about-us/people/marya-besharov for more publications.

Authors

This case study was written solely for pedagogical purposes. The authors or Saïd Business School do not have a commercial relationship with XRGlobal or its employees.

Pinar Ozcan

Pinar Ozcan is Professor of Entrepreneurship and Innovation at Saïd Business School, University of Oxford. She serves as the academic director of the Oxford Saïd Entrepreneurship Centre and the Oxford Future of Finance and Technology (Fintech) Initiative. Pinar has a PhD from Stanford University and specialises in strategy, entrepreneurship, and technology markets. She currently advises the Bank of England on the Digital Pound, the OECD on the Digitalisation of SMEs and the World Economic Forum on Financial Education. She is the founder and director of the Inspiring Female Founder Case series by Oxford Saïd Entrepreneurship Centre.



Meric Sevgi Eren

Meric Sevgi Eren is a strategy and expansion consultant and a mentor for start-ups. She specialises in female entrepreneurship, climate tech, and design. She currently serves as the Community Champion for the Inspiring Female Founder Case series by Oxford Saïd Entrepreneurship Centre. Meric holds a Postgraduate Executive Diploma at Saïd Business School in Strategy and Innovation ('23) and is a Master's student in History of Design at Kellogg College, University of Oxford ('25). She is the Co-Founding Partner of OxWAVES, a Female(-identifying) VC-Founder-Academic Network, and a committee member at Oxford Entrepreneurs.

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Saïd Business School
University of Oxford
Park End Street
Oxford, OX1 1HP
United Kingdom

www.sbs.oxford.edu

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