Digital meets sustainability:
making things better and making better things

Ravi Gidoomal shares perspectives from the frontlines of digital and sustainable manufacturing and explores the tension between our drive to deliver commercial results and our call to steward God's creation. How do we balance saving the planet alongside the demands of customers, shareholders and other stakeholders?

Every hero's journey is full of decisions. Every story is characterised by choices along the way. We are gripped with tension as our screen stars battle their enemies – within and without. Take Luke Skywalker and Darth Vader: 'If only you knew the power of the dark side'[1]; or Frodo Baggins 'I will take the ring though I do not know the way'[2]. Jesus spent 40 days and nights in the desert where he was famously tested by Satan.

As we emerge from the restrictions and disruption of the last 18 months, businesses must confront their own choices – will we return to our former ways or will we embrace a more sustainable future? Are there win-win scenarios where doing the right thing doesn't mean compromising on shareholder value or how we treat our customers, suppliers and employees? What role can digital technologies play in a sustainable, post-pandemic future?

First of all, a confession. My first decade in business was largely spent on trading floors and in large corporate boardrooms. Cash was king and the annual bonus was a major driver of behaviours. My roles were relationship based with a premium placed on face-to-face conversations.

I enjoyed the lifestyle that came with this – chauffeurs, airport lounges, gold cards, hospitality – all consumed in the name of making more profits for my employers and hopefully sharing a piece of this for myself. But for what ultimate purpose?

Looking back, these corporate excesses and my own prevailing attitude at the time seem incoherent when confronted with the data today on their environmental and even human cost. Success measured by our ability to consume. Whilst there are notable exceptions, much of this consumption comes at the expense of looking after

Luke Skywalker and Darth Vader battle with lightsabers
Photo: starwars.fandom.com

Gas-guzzling cars
Rolls Royce Cullinan
Photo: thetruthaboutcars.com

our planet – from gas-guzzling cars to high emission international travel. So how can we break out from this cycle of consumption and greed?

Finding my purpose

I find myself agreeing with the teacher in Ecclesiastes: 'Yet when I surveyed all that my hands had done and what I had toiled to achieve, everything was meaningless, a chasing after the wind; nothing was gained under the sun.'[3] For me, I have tried to reconcile this tension by stepping out from the relative safety of employment in the city to an exciting and yet often daunting land of self-employment, entrepreneurship and walking alongside other small and medium-sized business owners. An intentional choice to find my purpose and establish my own rules of the game.

Lockdowns have provided some space for me to reflect on my business purpose and journey to date. Peter Heslam has been leading us through a series this year looking at the purpose of business, also the topic of this year's Faith in Business retreat. My entrepreneurial path has been inspired by many before me – family members who ran businesses; inspirational business leaders from around the world; and from a faith perspective the legacy of generations of Christians who sought

to use business to make a difference in their world.

I started my current business, EDGE Digital Manufacturing, in 2018 alongside a friend and colleague, Steven Barr, with both of us bringing our faith principles and values to our workplace. We set out to inspire and help manufacturing leaders, especially within small and medium-sized businesses. Our subject domain is data and digital technology, but underlying this our primary focus has been helping leaders to think holistically; to find clarity and navigate complexity; and to lead their people effectively.

We did not expressly set out with an ambition to tackle environmental or sustainability issues. However, we are increasingly helping our clients to explore the role and importance of data and digital technology to develop more sustainable, efficient and productive practices. The recent IPCC report made for stark reading and as the UK prepares to host the COP26 summit we are seeing fresh energy and focus on initiatives to help businesses to reduce emissions and work towards Net Zero.

A call to stewardship

I believe we have been given a unique role on this earth with a God-given

instruction to look after it. 'The Lord God took the man and put him in the Garden of Eden to work it and take care of it.'[4] God loves his creation: 'God saw that it was good'[5] and all of creation worships Him 'All the earth bows down to you; they sing praise to you, they sing the praises of your name'[6]. As we work we also serve our heavenly father: 'Whatever you do, work at it with all your heart, as working for the Lord'[7]. This is not intended to be a detailed theological argument but rather an observation that we have been given responsibility for creation, and activities which protect and sustain creation must surely be aligned with his purposes.

As we have sought to practise what we preach and apply sustainable thinking to our own business – finding ways to manage uncertainty and variability and reduce our carbon footprint, I find myself taking this further: How can I align my business so that stewardship is as important as other commercial priorities? One of my drivers in setting out as an entrepreneur was to resolve the tension between making money and making a difference. I have the freedom to choose where I focus my time and energy. So putting it more bluntly, if digital adoption does not enable and lead to sustainability then what is the point?

How can we save the planet and be more profitable?

Over the last six months we have been exploring this choice by asking this question to many of the business leaders we work with in the manufacturing sector – managing directors, finance directors, digital leaders, operations directors, but also innovation leaders, apprentices and digital champions from all levels of the business. Although our lens has been the role and importance of digital technology, our underlying premise has been to consider ways to align commercial priorities with sustainability ambitions.

The discussions have been enlightening. There is no shortage of ambition, but putting ideas into action is a much more challenging proposition. There is a need for advocacy and education for manufacturers, since much of their environmental impact happens across the value chain outside of their factory walls. There is often a disconnect between talk and action – sustainability as a box-ticking exercise to satisfy head office. Finance and investment are a perennial challenge for smaller companies. And above all bandwidth and capacity for change hold many companies back.

We have worked closely with a UK Government sponsored initiative, Made Smarter, which has been established to encourage the adoption of digital technologies by small and medium-sized manufacturers. The Made Smarter Review[8] published in 2017 identified a potential positive impact of £455bn over the next decade and reducing carbon emissions by 4.5%.

There is an urgency for manufacturing companies to adopt new technologies, many of which we already take for granted as consumers. We can control our central heating through our smart phone; order our weekly shopping from the living room; and stream live TV the move. Even the local church has embraced new technologies as a result of the pandemic. The manufacturing sector has been slow to embrace the benefits of

digital technologies although Covid 19 has played a helping hand in forcing companies to change.

When it comes to the role of digital technologies and sustainability, we see a dual opportunity – to make things better (improve efficiency and productivity, reduce waste and use of energy) and to make better things (innovation, using and reusing products, changing customer behaviours). Digital technologies have a vital role to play in this new world – if we are to have any chance of achieving Net Zero then digital will be a key enabler.

The table below provides some examples of how manufacturing companies can use digital technologies to make things better and make better things:

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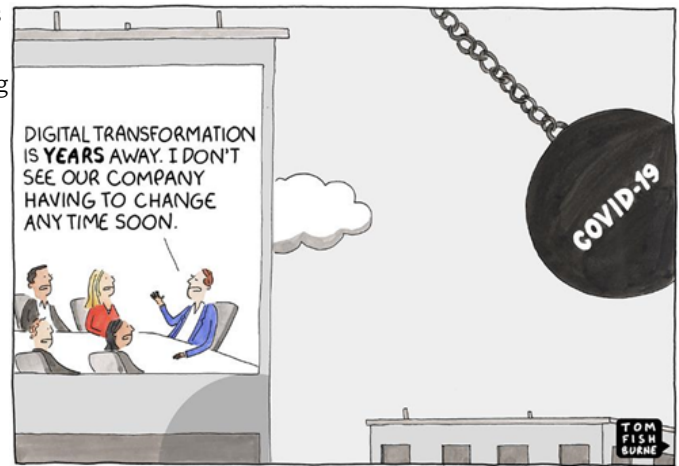
Sustainable business models

The pathway to sustainability is far from straightforward. If this is to become more than a marketing slogan or a corporate bandwagon, significant change and investment will be required. And therein lies the challenge. My starting place with businesses is to identify and call out unsustainable business practices. We need to earn the right to continue to trade – be that

	Making things better	**Making better things**
Data analytics	Using forecast data to manage stock levels and predict demand can reduce food waste	Supply chain traceability supported by new technologies such as Blockchain
Internet of Things	Using sensors on machines to monitor their performance and optimise use of energy	Shifting from selling products to selling services through tools such as predictive maintenance and remote control
Recycling and re-use	Enabling customers to return and recycle old products so parts can be reused in new products	Encouraging customers to recycle packaging (e.g. discounts for refills)
Optimising materials	Using 3D printing to make lighter prototypes that are easier to transport	Using innovative, lighter materials to reduce transport costs and carbon emissions
Extended Reality	Facilitating remote support to reduce the travel costs and carbon emissions relating to site visits	Replacing physical prototypes with a digital twin – which can come with much greater features and functionality

meeting customer demand or fulfilling a need in the market. I have worked with many organisations living beyond their current means and where the underlying business model was broken and unsustainable.

Duncan Gray shared some helpful frameworks in his recent Faith in Business Monthly talk on how to create Sustainable Businesses. These included Blueprint's Five principles of a purpose-driven business[9]; and the distinctive contribution that believers can make, and gifts they can share with the world. He also identified a tension between a focus on sustainability as an outcome and the desire of business to focus on inputs and behaviours which we can control. We need to consider how we are incentivising the right behaviours (explicitly and implicitly) and identify incremental changes we can make as we seek to become more sustainable.

Challenging our consumer mentality

The Tony Blair Institute recently analysed behaviour changes that will be required to achieve Net Zero based on the Climate Change Committee's 'Balanced Pathway'[10]. Over the next 15 years, we will need individuals to reduce their plane travel by 6%, reduce meat and dairy consumption by 20% and reduce car travel by 5%. This feels achievable but will require personal choices and sacrifices. Are we willing to

forgo holidays abroad to save the planet? Or, for those of us who are not already vegetarians, having one meat- free day each week?

We see this tension play out daily. At a recent cricket match we were encouraged to bring our own bottles and return glasses to reduce plastic consumption; whilst being encouraged to shine our phone lights for visual effect and enjoy the fireworks. As we navigate towards Net Zero we will need to be willing to make greater sacrifices to save our planet. Digital technologies will also change and challenge the way we consume – from shared ownership to greater ability to measure and monitor our personal environmental impact.

Counting the cost

Even where we can identify win-win scenarios, the upfront investment and additional costs involved in implementation and enhancing workers' skills can create short-term pain. As business leaders what commitments are we willing to make? Are we willing to be the first mover and sacrifice short-term profits for long-term sustainability gains?

We also need to consider hidden costs. For example, automation can lead to displacement of lower skilled workers. The Blueprint principles include our responsibility to employees. How do we manage the potential casualties from our journey towards more sustainable

processes? This can be complex when choices involve a personal cost to stakeholders.

For example, the furlough scheme introduced to protect jobs impacted by the pandemic has required employers to consider whether or not to top up employee wages beyond the 80% minimum. But this is nothing new – there is a huge variance in workplace benefits and terms and conditions across industry. As believers, should we provide the statutory minimum, or seek to offer the most generous terms we can afford?

Digital dividend?

What about the potential gains? Digital technology can transform processes and improve productivity. But how are we using the benefits created? Are we reinvesting time savings and leveraging efficiencies gained? Or are we filling the space created with more consumption and new forms of waste? Smart phones are now ubiquitous and transforming our personal lives – but how many of us feel that our lives are less cluttered, less busy and less pressured than a decade ago? To what extent are we using technology to mask unsustainable lifestyles?

From baby steps to larger scale investments, a key focus for my business is supporting the transformation process – preparing leaders and their teams for change. There are many

We need to reduce meat and dairy consumption by 20%

Photo: Sky News

Digital meets sustainability
Digital Imaging in dentistry
replacing dental rope wax

Photo: Prestige Dental Care

steps involved in a successful digital and sustainability transformation – training, communication, building knowledge and confidence. Change doesn't happen overnight – it requires patience and commitment.

Bringing people with us on the journey. There are parallels with the patience God shows his people – throughout the Bible we see examples of dialogue and engagement, signposting his people towards the plans he has for them. I recall one of our first client workshops and the satisfaction of watching the team recognise and appreciate their role in the change process through the power of simple actions such as gratitude and positive feedback.

Stepping out in faith

As an entrepreneur I have been learning how to set aside my need for answers and security and how to partner with a heavenly father who has my best interests in mind even if I can't always see this for myself. I am reminded of Isaiah: 'Enlarge the place of your tent, stretch your tent curtains wide, do not hold back; lengthen your cords, strengthen your stakes'[11]. I am taking greater risks today in my business than I was willing to take five years ago. As businesses grow the stakes go up with greater working capital needs, more mouths to feed, and more things that could go wrong.

But this should not lead to inaction. We need to be confident in what has come before and as believers, how God has journeyed with us to this point. As we consider potential investments in new technologies, and introducing sustainable business practices which are not yet fully tested, we can take comfort that in seeking to do the right thing we will not be alone. In fact we are uniquely positioned to lead the way and take even more risks because we can choose to see things from an eternal perspective.

Where do we go from here?

There are no easy answers. We are all heroes in our own story with difficult choices to make. We need to embrace the tension and balance commercial and sustainability priorities. We need to become better informed and more intentional. We all have a responsibility and even small changes can add up to make a difference.

Digital technologies will be key enablers but trade-offs will be required as we manage finite resources. There is hope however, and as we wrestle with these questions and seek to make the right decisions in our personal lives and for our businesses, we are not alone. We can ask our Father in heaven to open our eyes and show us where and how we can make a difference. Emmanuel. God with us. ▣

1   Star Wars: Episode V – The Empire Strikes Back, 20th Century Fox
2   J.R.R Tolkien, The Fellowship of the Ring, Harper Collins, 1991, p. 260
3   Ecclesiastes 2:11 NIV
4   Genesis 2:15 NIV
5   Genesis 1 NIV
6   Psalm 66:4 NIV
7   Colossians 3:23 NIV
8   Made Smarter Review - GOV.UK (www.gov.uk)
9   https://www.blueprintforbusiness.org/wp-content/uploads/2021/05/Principles-V4-page-001-1536x1086- 1.jpg
10 https://institute.global/policy/planes-homes-and-automobiles-role-behaviour-change-delivering-net-zero
11 Isaiah 54, NIV

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