

The Power of 10x Thinking



Foreword

Our mission at CTS is to enable our customers to differentiate by adopting not just Google's cloud technology, but also their culture of innovation. One of the key elements in Google's innovation approach is the 'Think 10x' mindset.

This whitepaper outlines a framework we have created in partnership with Google, which applies the Think 10x approach to create a distinctive migration and modernisation plan - allowing your business to really take advantage of public cloud technologies and innovate.

Larry Page, former CEO, and co-founder of Google lives by the notion of 10x thinking. This mindset states that most companies would be happy to improve a product by 10%, win some market share, and to crush some competitors - but not Google. Page believes a 10% improvement means you're doing the same as everyone else - you're probably not going to fail spectacularly, but you're guaranteed not to succeed wildly. The key to true innovation is when you try to improve something tenfold, rather than by 10%.

In fact, Google is so committed to the principle of Think 10x that an entire division has been created around the concept - Google X. Engineers in this division focus on producing major technological advances, from glucose-monitoring contact lenses, or balloons that deliver internet access to remote areas of the world, to self-driving cars.

Think 10x requires a perspective shift and that is exactly what our new framework is built upon. Migrating to the cloud is so much more than moving existing infrastructure to a different environment - it's about embracing a modernisation journey. Rather than doing what you've done previously with a few minor changes, re-imagine your business and create new opportunities to support your growth and transform the way your organisation operates for years to come. What will you do to bring this philosophy to life within your organisation?

The power of 10x thinking is at the heart of this journey, and we invite you to join us for the ride.

Chris Bunch
Managing Director
CTS





10x v 10%

In the wake of COVID-19, many companies raced to migrate to a cloud-based way of working, and with that, the entire cloud market accelerated. Globally, more than 70% of businesses now use cloud in some capacity. [1]

As this demand and usage from businesses has grown, so has the investment and advancement within the cloud market. Google continues to invest heavily in the cloud and is rapidly growing its footprint into new regions and industries.

Investments in the public cloud are creating better opportunities for customers to adopt a Think 10x mindset. Now more than ever, we're seeing a significant transformation from businesses simply migrating to the cloud to those that are using it to embark on a modernisation journey. By modernisation, we mean making your infrastructure work for you, so you can grow and innovate at scale.

Moving the same infrastructure and applications into a different environment alone won't make a difference - the opportunities that the migration creates to modernise is where the value lies. For example, we partnered with a leading European eCommerce company on their modernisation where we re-architected their environment on Google Cloud Platform. This resulted in the ability to scale and meet demand from both an application and hardware standpoint. Our approach to modernisation, which was underpinned by 10x thinking, focused on re-architecting the applications and services as well as the underlying platform. They can now take changes to market faster with confidence in their deployment and testing pipelines.

A range of different issues can hinder modernisation. These include the cost of migration, technical legacy, lack of understanding around the existing estate, the skills gap, cultural change within organisations, or businesses simply not fully embracing and understanding the true opportunity that cloud technology can unlock.

While COVID accelerated a lot of change and adoption of cloud computing, some businesses that were previously slow to react rushed their move to the cloud without developing a big picture plan. As a consequence, they've not been able to realise the full value of migrating to the cloud and in some cases have experienced little or no return.

It's important to note that migrating to the cloud isn't a magical moment. The technology simply acts as an enabler. A solid business case is critical to making the initial move, with the modernisation plan key to long-term success.

It has been predicted that through 2024, 60% of businesses that have migrated to cloud-based working will encounter unexpected public cloud cost overruns. [2] Luckily, these costs can be avoided by deploying a considered modernisation strategy. Businesses should invest time to consider their key drivers and objectives at the initial stage of their journey so that the plan is specifically designed to support these goals.



One of the most critical, early phases in a cloud migration project is the application assessment, as this helps to determine which cloud migration approach should be used for each application. Furthermore, applications can be rewritten or re-architected in a cloud-native way, driving additional efficiencies and new ways of working.

Conversely, adopting a rehosting approach - simply moving your data onto the cloud - can result in higher cloud operating costs after migration and act as a barrier to business growth. By prioritising modernisation, you can ensure that your data isn't rehosted and then forgotten about.

Modernisation is designed to optimise your infrastructure to suit your needs, empower your teams and enable business growth. The ability to leverage new technologies, such as Artificial Intelligence (AI) and Machine Learning (ML), will see benefits reaped across the business and beyond your IT estate.

What's more, evidence shows that organisations with a clear modernisation strategy can attract and retain the best talent. This is particularly relevant for Gen Z who now accounts for more than 60,000 million people. In a global survey carried out in 2019 by The Workplace Institute, 88% of Gen Z believed that using AI to automate the daily grind of tedious tasks and streamline the necessary evils of the paper-pushing world would improve their jobs - reinforcing the 10x rationale. [\[3\]](#)

Working with leading-edge technologies brings exciting opportunities for employees to re-imagine their workloads, and the future of their business, increasing job satisfaction. The possibilities here are endless.

Funding the Future with Think 10x

As part of their mission to help customers adopt not only Google cloud's technology, but also their culture of innovation, CTS, Google, and their strategic partners have launched the Think 10x programme.

The programme is designed to remove challenges that can be cost-prohibitive to a modernisation project while ensuring the subsequent savings are reinvested in a digital infrastructure that is tailored towards achieving the long-term business vision.

Think 10x has been designed with three key stages: Discovery, Horizon 1 and Horizon 2. The Discovery phase determines the most appropriate and cost-effective course of strategic action. This involves understanding the business and its operations, including assessing existing infrastructure and resources, as well as future plans. It also incorporates factors such as a carbon calculation to align with environmental ambitions. For example, businesses may choose to host their data in regions with reduced carbon emissions in line with their sustainability objectives. The outcome of the Discovery phase is an application assessment, business case for change, and the modernisation plan.



Horizon One

Once the scope is defined, the implementation begins with Horizon 1 where CTS and Google Cloud migrate applications and services into the cloud with a High-Velocity Migration. This involves creating a Google Cloud Platform (GCP) landing zone which provides a baseline for policy management, identity and access controls as well as governance measures. During Horizon 1, funding from Google Cloud, CTS and their strategic partners is used to remove migration cost as a barrier to entry, with a view to reinvesting savings as part of the next phase.

Horizon Two

This is where the magic happens. The savings realised in Horizon One are reinvested into modernisation initiatives to achieve the long-term business vision. Examples of this include containerisation and serverless refactoring to help drive continuous improvement. Containerisation involves packaging up code and all its dependencies, in isolated user spaces called containers, so it can be transferred and run consistently in all environments. Going serverless typically means breaking an application down into smaller (micro) services. Functionality can be split into smaller repositories allowing for the deployment of features independently from others. For example, at peak trading, an e-commerce site may need to scale the shopping basket service to deal with the increased number of checkouts. Going serverless means they can deploy this feature independently rather than making a new instance of the entire application, reducing the consumption of compute resources. Furthermore, serverless services are managed for the end-user, meaning developers can realise a faster time to value.

The Think 10x approach developed by Google Cloud and CTS is geared towards driving value from the cloud swiftly while ensuring that continuous improvement and optimisation remains a mainstay of the programme rather than being overlooked.

Google, CTS and Intel are already delivering Think 10x with publishing company JPI media. It's designed to help the publisher, which owns regional newspapers including The Scotsman, the Yorkshire Post and Portsmouth News, digitise elements of its business.

“Maintaining the momentum of infrastructure improvement is essential and we are looking forward to enhancing our digital capabilities, ensuring we can adapt to the ongoing changes and opportunities that arise.”

David Martin, Chief Technology Officer at JPIMedia.



By reducing the initial cost impact, modernisation becomes commercially viable as funds that would have been used on operational overheads and hardware can now be spent on improvements, removing the risk of simply moving unmodernised workloads into a new environment. This, in turn, gives decision-makers the ability to consider new opportunities and bigger goals for their business.

Creating a Culture of Innovation

Migrating to the cloud is not just a technology initiative. It's an enabler of a new business strategy and a new way of working. Maximising the benefits that the cloud can bring involves having the vision to embrace innovation, and become a disruptor in the marketplace.

At the heart of Google's culture of innovation is 10x thinking. Put simply, true innovation happens when you try to improve something by 10x rather than by 10%. This is the guiding principle for engineers at Google X.

Take a moment to consider how you would improve something by 10x rather than 10%. Rather than focussing on what you have today and making incremental improvements, the key is to re-imagine what long term success looks like and work backwards from that.

Aiming for a 10x gain leans much more towards creativity, innovation and in many respects, bravery. Through thinking about how something can be improved 10 times, a vision for the future is created. Looking beyond legacy systems and understanding the opportunities that operating in the cloud will bring, can be a key catalyst to opening up new business horizons.

An example of how 10x thinking has helped businesses is South East Water, which has supplied an incredible 521 million litres of drinking water per day to over 2 million people in the South East England region. The organisation recognised they needed a modern IT infrastructure in order to improve their overall services. After evaluating different options, it was clear that moving to the cloud was the best way forward and Google Cloud Platform could offer innovative methods of communication with their customers.

South East Water teamed with CTS' developers and platform engineers, making use of Firebase - a Google platform that enables businesses to build their own apps - to improve communication and interaction with their 2.2 million customers. This involved migrating their CRM into Google Cloud and building functionalities to completely transform the customer experience, using sentiment analysis and predicting trends while using the likes of Vision AP.



“Our business plan over the next five years is centred around innovation and optimising customer interaction. Technology such as AI and ML will be key to us achieving this. Creating the infrastructure where our customers can report a leak using their phones, and having Google cloud’s ML technology automate the workflow, will play an important role in how we optimise operations.”

Mary Sabalis, Head of Business Systems at South East Water

The 10x thinking goal helps to rethink an idea entirely. It pushes beyond existing models and forces you to totally reimagine how to approach them.

However, the migration process alone is not enough to glean the insights you need to transform the customer experience, optimise the efficiencies of manufacturing equipment, manage stock levels in a fashion house, or control the conditions in a greenhouse. These operational changes need added layers of a thoughtfully created data strategy, to make the most of technologies such as AI and ML.

Make smarter and faster decisions using the industry’s leading data platform

Following a successful migration to the cloud, organisations have the tools to unlock a whole host of benefits. From improved ways of working that enhance collaboration and productivity, to the ability to access more data that allows for insight-led operational changes, the benefits of cloud technology come alive as the migration completes.

For many organisations, these benefits allow them to reimagine their operating models. Businesses can make smarter decisions across their teams using technologies like ML and advanced analytics capabilities, with the added insurance of enhanced security that cloud technology brings.

What’s becoming more and more apparent with cloud technology is its role in delivering actionable change across organisations. An increasing number of businesses are using the insights that cloud technology provides to drive greater efficiency - efficiencies that are playing an integral role in helping businesses become more agile, adaptable, and even sustainable.



Manufacturers, for instance, are turning to enhanced data analytics to monitor the efficiency of their equipment, while clothing retailers are using predictive analytics to help manage stock production levels to reduce wastage.

CTS recently undertook a project with an agriculture business to automate its greenhouses, controlling the conditions using cloud-based ML in order to produce more efficient yields. These new and innovative ways of using cloud technology's insights are cropping up daily.

Enterprises are storing

44%

of their data
in the public cloud [4]

2/3

Of business data is never
actually used [5]

With businesses already storing around 44% of their data in the public cloud, utilising that information is essential to making a cloud strategy deliver for an organisation. However, it is interesting to note that two-thirds of business data goes unused, leaving a huge opportunity on the table.

The abilities of AI and ML can be endless, provided the data that is fed into it is frequent, up-to-date, and – most importantly – accurate. Data accuracy is key for any successful ML task, and that's best achieved when the modernisation strategy includes a solid data warehouse system underpinning it.

Google's BigQuery, for instance, is a serverless, highly scalable multi-cloud data warehouse designed for business agility. This allows organisations to gain and view insights in real-time for an up-to-date view of an entire business' processes, presented in an easy-to-decipher dashboard.

The information provided allows businesses to predict outcomes easily with ML, making faster and more informed decisions.

BigQuery provides a platform for data scientists and data analysis to build and operationalise ML models. When combined with virtualisation tools such as Looker, this is where, this is where innovative and business transformational changes delivered through ML can be brought to life, and be made accessible to teams throughout the organisation.

Think Sustainability

Cloud computing offers a considerably more energy-efficient way for the IT industry, which is estimated to account for around 4 percent of global electricity consumption, to host applications and data. [6]

Significant benefits can be achieved in reducing carbon emissions and safeguarding the environment if all businesses used public and hybrid cloud models, rather than having their own individual on-premise data centres.

Lawrence Berkeley National Laboratory and Northwestern University conducted a six-month study, funded by Google, in which they found that moving common software applications used by 86 million U.S. workers to the cloud would amount to cutting the energy use by 87% which can power Los Angeles for a year, the report said. [7]

It is more cost-efficient for public cloud servers to upgrade on a regular basis because of the economies of scale. As a result, the regular investment in new technology brings in better energy efficiency than most individual businesses could afford to achieve for on-premise estates.

Migrating to a public cloud environment can sow the seeds of sustainable computing practice by allowing organisations to run their infrastructure in an energy-efficient environment. What's more, by modernising the applications within their IT environment, they can create additional opportunities to reduce their carbon footprint. Containerisation, for example, creates a much more efficient way to deploy new applications and this optimisation of resources further minimises the negative impact of IT operations.

10x thinking through Google Cloud and CTS' joint sustainability hero workshops, will have a significant impact on goals. Aligned to strategic objectives, the workshops provide the following deliverables in a personalised report:

- ◆ **Greening of IT:** Discovery session and review of your existing IT operations to identify specific use cases to lower your associated emissions
- ◆ **Greening by IT:** We'll look at the use of data across your organisation, combined with tools such as Google Earth Engine to drive sustainability recommendations within different areas of your business, from facilities and buildings to supply chain, energy consumption and travel.

CTS and Google are partnering with companies who are looking to increase their sustainability focus to drive competitive advantage, meet regulatory compliance, improve operational efficiency and create new opportunities for innovation.

Both CTS and Google are committed to the move to Carbon Zero. By 2030, Google aims to have achieved Carbon Zero, which is a landmark event and a key milestone in Google's ongoing strategic initiative to be the global leader in delivering cloud computing services sustainably. In addition, CTS is passionately pursuing a B Corp accreditation, which will judge us independently on our sustainability approach, along with other positive societal attributes.

With ethics and responsibility becoming heightened priorities for businesses, the focus on building strong sustainability credentials to be a market differentiator and future-proof themselves towards net-zero carbon targets has never been greater.



Conclusion

Successful migration to the cloud requires vision and an understanding of how the modernisation journey can take your business into the future, and open up new opportunities and ways of working.

Migration to the cloud doesn't work wonders alone. Similar to moving into a new house with boxes full of clutter and outdated belongings which no longer serve a purpose, you'll need to clear out, update and invest before you can spark joy.

A carefully planned modernisation journey to the cloud, supported by a thoughtfully created data strategy, is critical to making the most of technologies such as AI and ML.

Our Think 10x programme – through its three stages of Discovery, Horizon 1 and Horizon 2 - is aimed at helping you map out your modernisation journey to meet evolving business needs. Through removing challenges that can be cost-prohibitive, it is designed to ensure subsequent savings are invested in a digital infrastructure that is tailored towards achieving the long-term business vision.

As part of Think 10x, it's important to remember that migrating to the cloud is not just a technology initiative. It empowers organisations by enabling new strategies and intelligence gathering, embracing innovation, supporting sustainability goals and helping to position your business as a true disruptor in the marketplace.



Appendix

- 1 & 2. **Gartner Research & Advisory** - <https://www.gartner.com/smarterwithgartner/6-ways-cloud-migration-costs-go-off-the-rails>
3. **Forbes** - <https://www.forbes.com/sites/forbestechcouncil/2019/04/09/technology-is-critical-to-recruit-and-retain-a-workforce-that-is-only-getting-younger/?sh=764be01a76cb>
4. **Flexera 2021 State of the Cloud Report (p.26)** - <https://info.flexera.com/CM-REPORT-State-of-the-Cloud>
5. **Frontier Enterprise** - <https://www.frontier-enterprise.com/two-thirds-of-data-available-to-firms-goes-unused/>
6. **ITIF** - <https://itif.org/publications/2020/07/06/beyond-energy-techlash-real-climate-impacts-information-technology>
7. **Earth5R** - <https://earth5r.org/environmental-benefits-cloud-computing/>