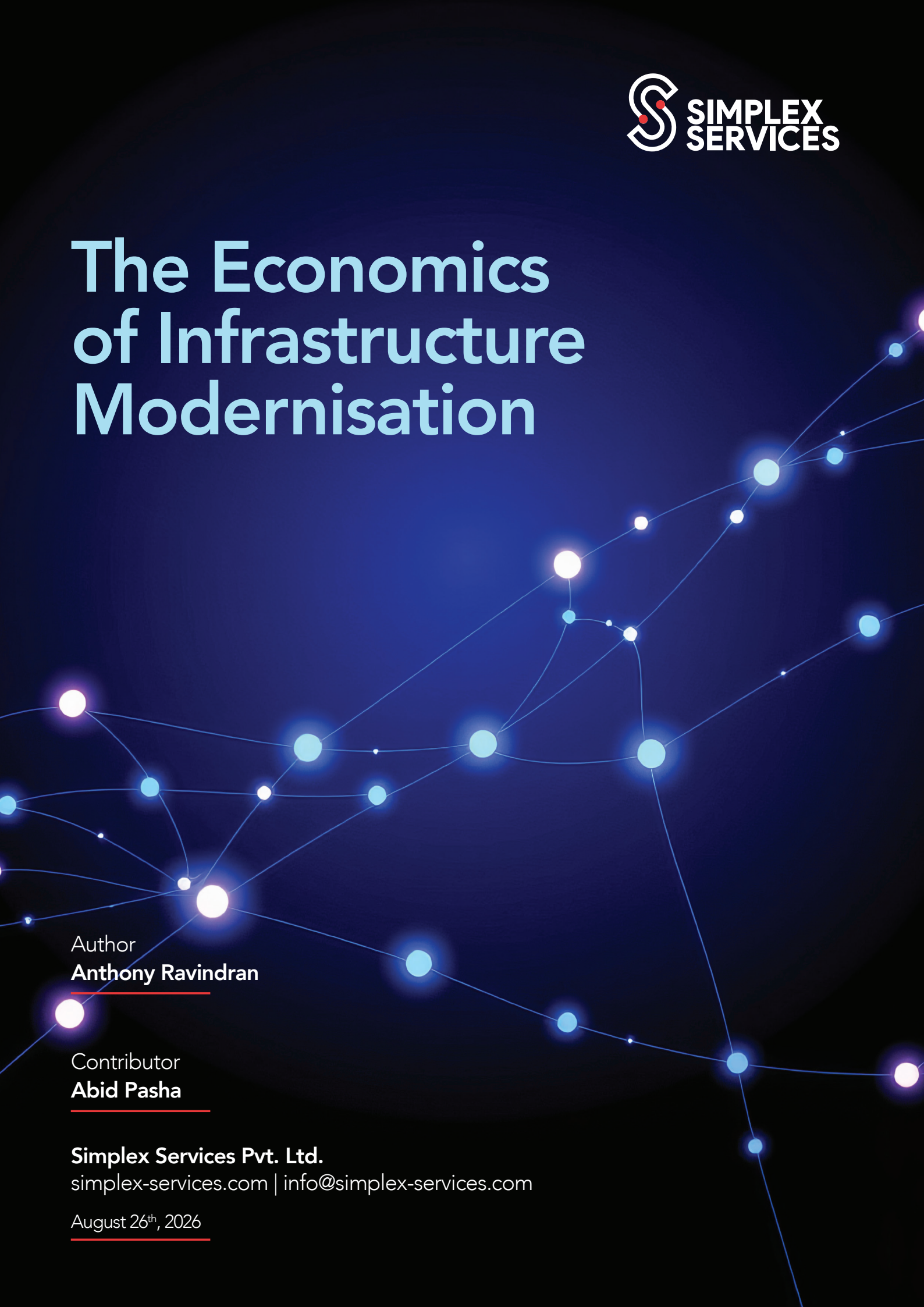
SIMPLEX SERVICES

The Economics of Infrastructure Modernisation



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The Economics of Infrastructure Modernisation

Quantifying ROI, TCO, and Business Agility

Executive Summary

Infrastructure modernisation has become one of the most financially consequential decisions for enterprise technology leaders. As organisations face rising operational costs, talent shortages, regulatory pressure, and the need to innovate faster, legacy systems increasingly act as a drag on both cost efficiency and competitiveness.

Industry research consistently shows that organisations investing in cloud migration and infrastructure modernisation achieve meaningful improvements in operational efficiency, cost optimisation, resilience, and software delivery performance.

This whitepaper examines the economic levers behind modernisation, quantifies its financial impact, and outlines how enterprises can build a defensible ROI model aligned with CFO, CIO, and CTO priorities.

The Hidden Cost of Legacy Infrastructure

Legacy systems often appear stable, but beneath the surface they accumulate cost, complexity, and risk. Much of this cost is invisible until quantified.

The Direct Cost Burden

McKinsey research estimates that technical debt can account for 20–40% of the value of an organisation's entire technology estate.

These costs include hardware refresh cycles, proprietary licensing, vendor support contracts, and specialised talent required to maintain outdated technologies.

The Indirect Cost Burden

Operational disruptions can have significant financial consequences, affecting revenue, customer experience, productivity, and business continuity. IBM's Cost of a Data Breach research continues to show that security incidents carry substantial business costs, reinforcing the importance of resilient and modern infrastructure.

Additionally, according to Verizon's 2024 Data Breach Investigations Report, exploitation of vulnerabilities remains one of the major pathways into organisational breaches, highlighting the operational and security risks associated with ageing and poorly maintained systems

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These numbers illustrate a simple truth: legacy infrastructure is not just expensive — it actively suppresses innovation and slows business momentum.

Modernisation as a Financial Strategy

Modernisation is often framed as a technology initiative, but its strongest impact is financial. It shifts organisations from rigid, capital-intensive infrastructure to flexible, consumption-based models.

Capex → Opex Transformation

Cloud adoption enables organisations to shift from capital-intensive infrastructure investments to more flexible consumption-based operating models, improving spending flexibility and aligning costs with business demand.

Higher Resource Utilisation

Cloud environments enable organisations to improve resource efficiency through automation, rightsizing, autoscaling, and more dynamic allocation of compute and storage resources.

Licensing and Support Reduction

Application and database modernisation can help organisations reduce dependency on expensive legacy licensing models and simplify ongoing software management costs.

Operational Automation

Forrester studies consistently identify automation, cloud operations management, and governance practices as significant contributors to operational efficiency and cost optimisation.

By moving from traditional infrastructure models to cloud-based platforms, organisations gain greater flexibility in how technology investments are funded, managed, and scaled.

Infrastructure Modernisation is therefore not merely a cost-cutting exercise — it is a strategic reallocation of spend from maintenance to innovation.

Quantifying ROI and TCO Reduction

One of the biggest challenges technology leaders face is building a business case that resonates beyond the IT function. While modernisation is often discussed in terms of architecture, cloud adoption, or operational efficiency, executive stakeholders want answers to a simpler question: What tangible value will this investment deliver?

Multiple independent studies have found that organisations modernising their infrastructure achieve significant improvements in cost efficiency, operational performance, and business agility.

IDC's research into cloud infrastructure modernisation found that organisations migrating and modernising workloads on cloud platforms achieved a 318% five-year return on investment (ROI). The same study reported a 51% reduction in operational costs, a 57% improvement in IT infrastructure management efficiency, and a 75% faster deployment of new application features.

These improvements illustrate that the value of modernisation extends far beyond infrastructure savings, creating benefits across technology operations and business delivery.

Forrester's Total Economic Impact of AWS Cloud Operations study found that organisations with mature cloud operations achieved a 241% ROI over three years. The study also reported $3.1 million in savings through faster workload deployment, $3.4 million in operational savings from improved workload management, and $7.8 million in avoided downtime-related losses.

These findings demonstrate that organisations generate value not only through reduced infrastructure costs but also through greater operational resilience and efficiency.

The financial benefits of modernisation are often compounded by improvements in business agility. Faster deployment cycles enable organisations to launch products sooner, respond more quickly to market shifts, and shorten the time between investment and revenue generation. Infrastructure teams become more productive through automation, while engineering teams spend less time managing legacy constraints and more time delivering business value.

Importantly, ROI should not be viewed solely through the lens of cost reduction. Modernisation creates value across multiple dimensions:

- Reduced operational complexity and infrastructure management overhead
- Improved scalability and resource utilisation
- Faster application delivery and innovation cycles
- Greater resilience and business continuity
- Stronger governance, security, and compliance controls

The Agility Dividend

Agility is the most undervalued financial benefit of modernisation. Modern infrastructure enables enterprises to respond faster to market changes, customer needs, and competitive threats.

Speed of Delivery

- High-performing, cloud-native teams achieve faster deployments, faster lead times, and lower change failure rates.
- This speed directly translates into faster revenue recognition and improved customer satisfaction.

Scalability and Elasticity

- Modern platforms scale automatically, reducing the need for over-provisioning.
- This elasticity is crucial for industries with seasonal or unpredictable demand — retail, BFSI, media, and logistics.

Innovation Enablement

- Modern infrastructure unlocks advanced capabilities: AI/ML workloads, real-time analytics, IoT and edge computing, and multi-region digital platforms.
- These capabilities create new revenue streams and competitive advantage.

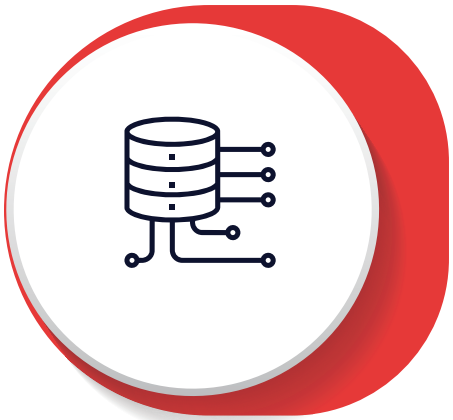
Building the Business Case

A strong business case connects modernisation outcomes to financial metrics.

Establish Baseline

Enterprises must quantify:

- Current infrastructure cost
- Downtime frequency and cost
- Licensing and support spend
- Developer productivity metrics
- Compliance and audit overhead



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Model Modernisation Impact

This includes:

- Cost savings (direct + indirect)
- Operational efficiency gains
- Innovation throughput
- Risk reduction
- Revenue uplift

Present ROI Timeline

Most enterprises see:

- Year 1: Operational savings + reduced downtime
- Year 2: Full ROI + innovation uplift
- Year 3+: Compounding agility and revenue growth

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The Simplex Services Proposition

Simplex Services delivers modernisation through a structured, financially grounded methodology.

The Cloud Playbook aligns CFO, CIO, and CTO priorities to ensure modernisation delivers measurable business outcomes — not just technical upgrades. This ensures modernisation is predictable, value-driven, and aligned with long-term business strateg

Financial modelling

Cloud architecture design

Governance frameworks

Migration execution

Cloud-native capability building

Summary

Infrastructure modernisation is not just about migrating workloads or reducing operational complexity. It is about creating a technology foundation that supports growth, resilience, and continuous innovation.

It is the most financially impactful transformation an enterprise can undertake. It reduces cost, accelerates innovation, strengthens resilience, and unlocks new revenue opportunities.
The economics are clear: modernise early, modernise strategically, and modernise for long-term advantage.

Speak To Us

Whether your organisation is evaluating cloud adoption, addressing technical debt, modernising critical applications, or building a long-term cloud strategy, the right roadmap can make the difference between incremental improvement and transformational outcomes.

Simplex Services enables enterprises align technology investments with business goals through structured assessments, cloud modernisation frameworks, governance models, and cloud-native transformation strategies.

Write to us at **sales@simplex-services.com** and connect with a Simplex Services infrastructure modernisation expert to assess your current environment and identify opportunities for cost optimisation, agility, and growth.