A Techaisle White Paper

SMB INNOVATION AT THE EDGE

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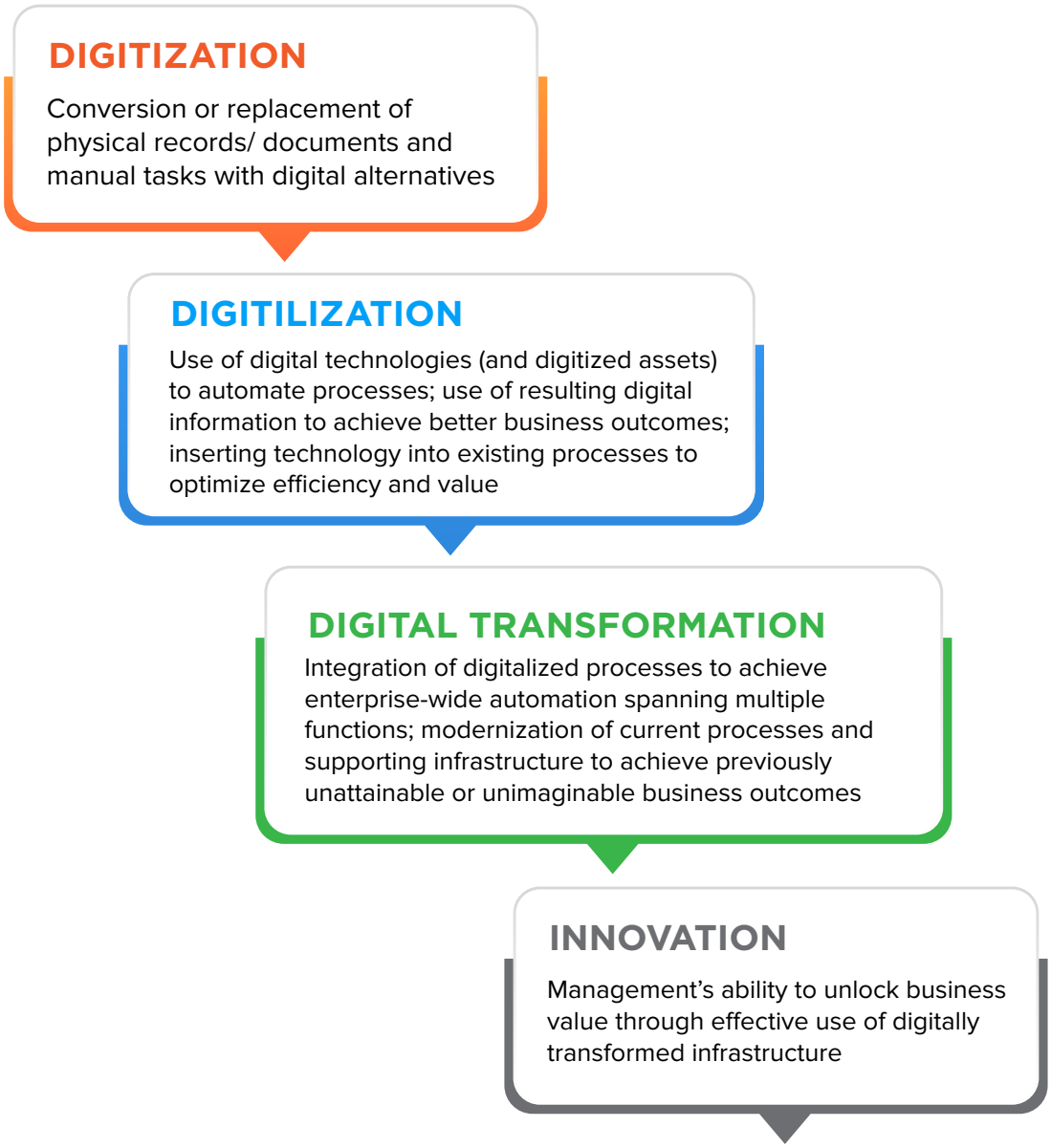
DIGITAL BUSINESS IS EVERYWHERE

Business leaders tend to compartmentalize the different parts of their operations, examine each for opportunities to reduce costs, minimize risks, improve efficiency, and obtain better overall performance. Sales executives look to increase conversion rates and reduce cycle times. HR professionals explore new options for attracting and retaining staff members while optimizing productivity to contribute to organizational growth. COOs examine processes to uncover efficiencies that will allow them to cut delivery costs or allocate scarce resources to the activities that will drive better corporate performance.

In the past, IT was a discrete element of a complex corporate fabric. But in today's world, IT is integral to digital transformation. Technology isn't a different aspect of corporate capabilities – digital infrastructure is business infrastructure. Today, executives drive their organizations to rapidly automate supporting interaction methods, collect data, and use it to drive new results, develop new products and services offerings, support customers, and lead business expansion.

THE DIGITAL IMPERATIVE

To create a digital business foundation that unlocks innovation across the organization, SMBs of all sizes are embarking on a digital transformation journey - a multi-stage process.

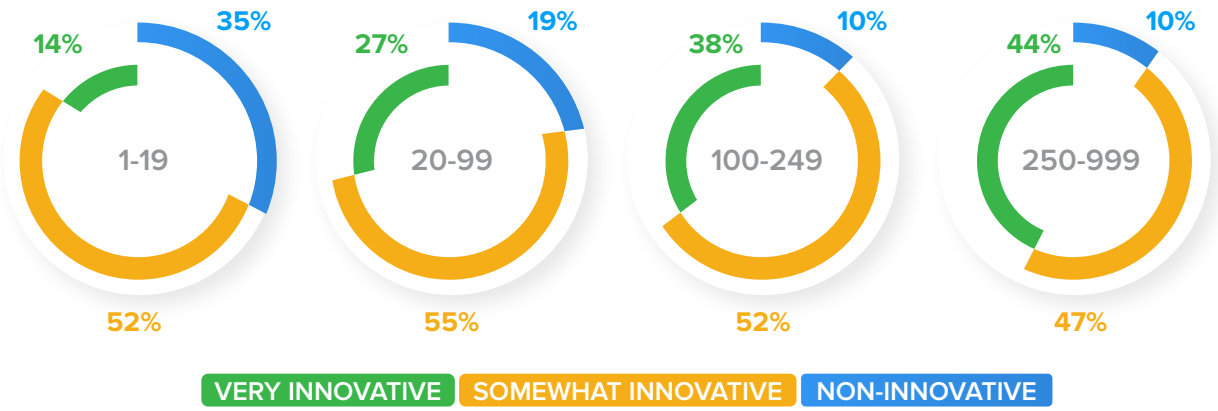


It is challenging to achieve innovation in isolation. Technology provides tools to support greater efficiency and market engagement and enable the best ways to help the workforce capture these benefits and be more innovative. **As per Techaisle's SMB and Midmarket Digital Transformation Adoption trends survey research for 38% of SMBs, the primary objective motivating investments in digital transformation is to create an infrastructure that will help "drive innovation" - ranked second by both small and midmarket segments.**

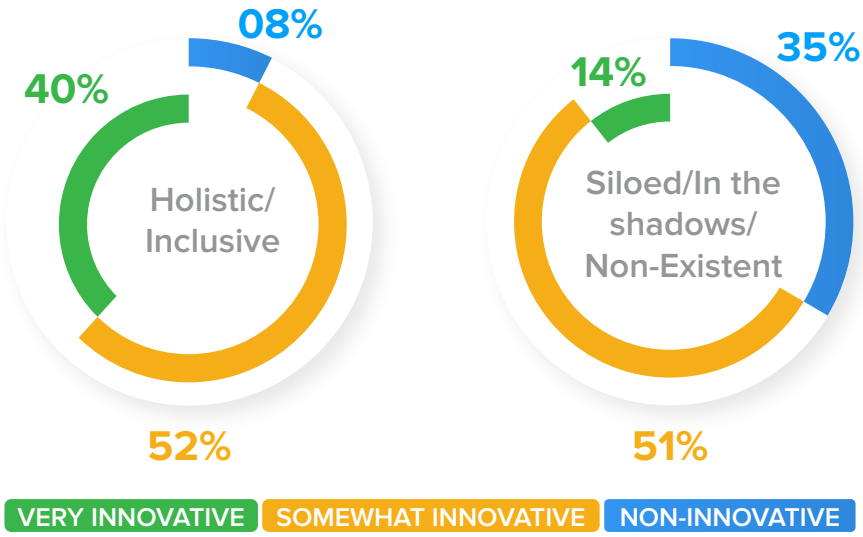
INNOVATIVE SMBS HAVE SOPHISTICATED AND MATURE TECHNOLOGY USAGE

Large enterprises have always leveraged their scale. The ability to obtain the best pricing by buying needed inputs in bulk, leverage preferred supply contract terms, capitalize on national or global market reach, and create efficiencies that result in price and margin advantages over smaller competitors. But, SMBs have survived – and thrived – by agilely developing new ways of understanding and addressing customer problems and creating products and services that enable them to build unique value propositions that reflect an in-depth knowledge of a target customer community.

SMB INNOVATION BY BUSINESS SIZE

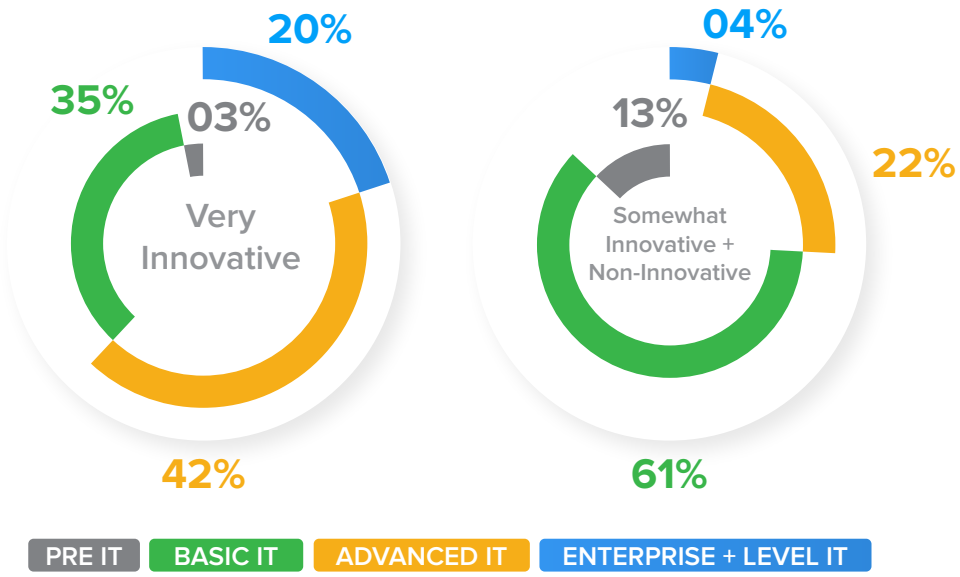


SMB INNOVATION BY DIGITAL MATURITY



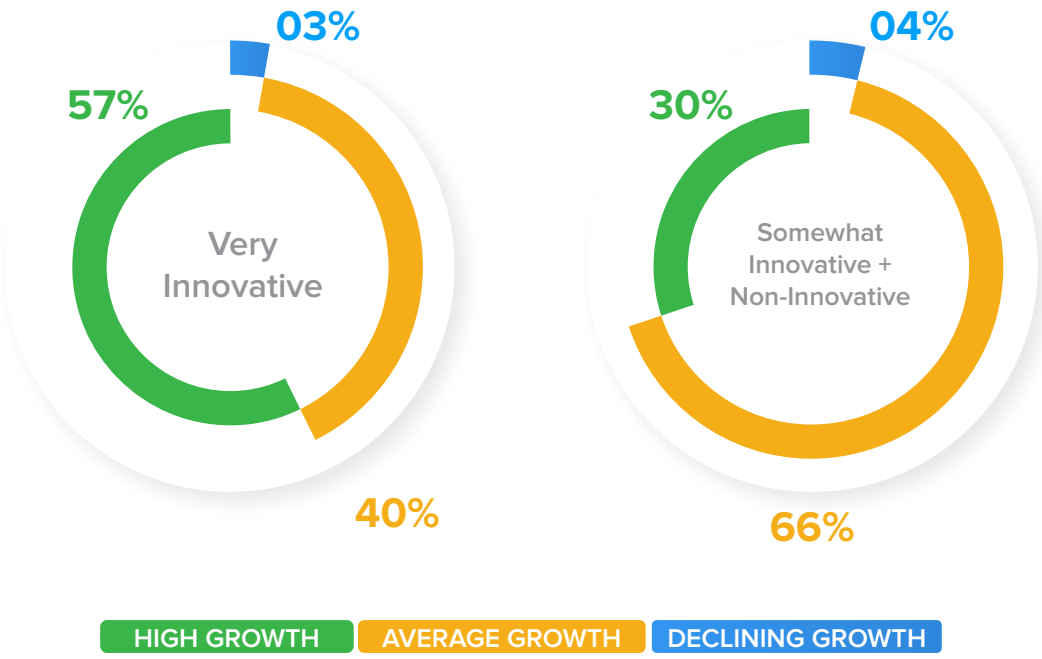
The data from Techaisle's SMB Digital Transformation and SMB IT Maturity segmentation studies illustrates some intriguing truths about today's SMB market. In today's world, innovation increasingly ties to digital capabilities. For example, 40% of SMBs with a Holistic/Inclusive digital maturity mindset, who believe that digital technologies impact every aspect of the business and are a core part of their strategy, are very innovative. Most SMBs consider themselves to be at least "somewhat innovative." The proportion who see their organizations as "very innovative" varies directly with size, indicating that innovation likely links to resources.

IT MATURITY SEGMENTS



However, resources are not a function of employee size but reflect how technology applies within the business. As the chart demonstrates, more than 60% of SMB innovators have invested in advanced or enterprise-level IT capabilities. The impact of innovation and IT maturity/sophistication correlates to SMB business growth rates. More than half of very innovative SMBs are "high growth," nearly double the less innovative firms.

A HIGHER PERCENT OF INNOVATIVE SMBS ARE HIGH GROWTH FIRMS



Innovative SMBs have 1.7x revenue growth as compared to somewhat innovative firms.

Together, these data points demonstrate the truth that "In the new world, it is not the big fish which eats the small fish, it's the fast fish which eats the slow fish." Size does matter – but not as much as agility.

SMBS ARE BUILDING THE EDGE

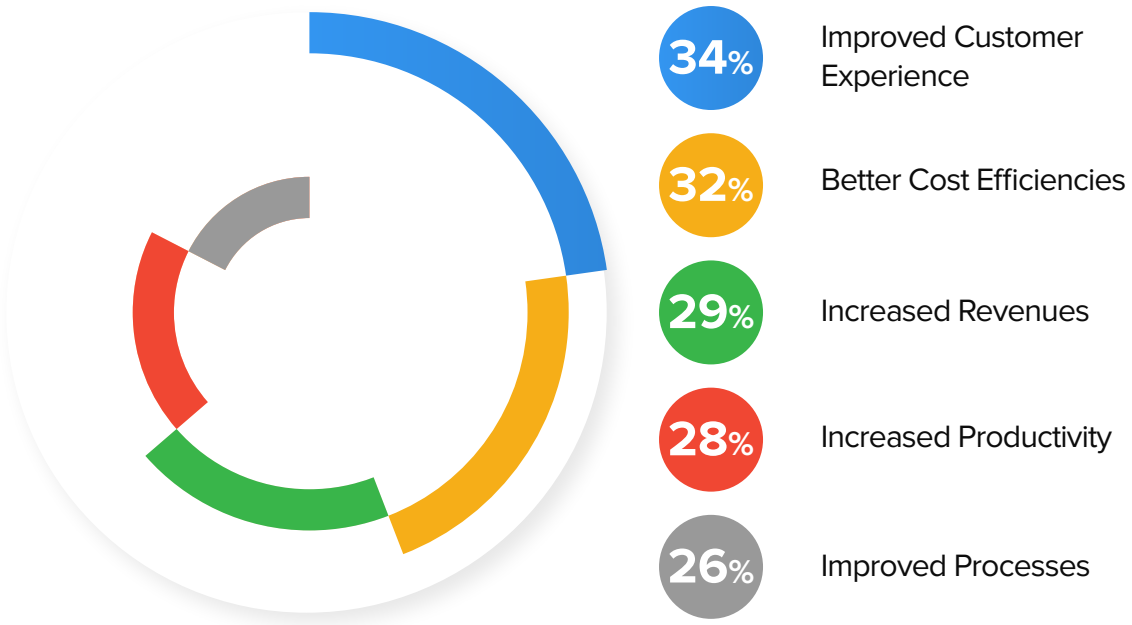
As businesses of all sizes develop digital foundations, talk of SMBs building an "edge" by building THE edge – edge computing – is becoming ubiquitous. But what is this edge?

The Edge is the place where data from people, places, things, and their locations gets created. Since this is where the action is, decisions can be made more quickly if made at the Edge. In terms of technology, the Edge describes an IT approach that is distributed and networked. An infrastructure in which the compute can be anywhere, with networks that connect a wide variety of endpoints, ranging from human users to the Internet of Things (IoT) devices such as sensors, to bring inputs to processors and ultimately translate endless streams of data into business insight.

COMPELLING EDGE BENEFITS DRIVE ADOPTION

Techaisle SMB and Midmarket survey research shows that SMBs believe that edge computing delivers significant business benefits: improved customer experience, cost efficiencies, revenue growth, better productivity, and streamlined internal business processes. Spurred by these goals, SMBs are beginning to use edge solutions to facilitate collaboration between employees, partners, suppliers, and customers; for supply chain visibility, asset tracking, and cost efficiencies; and for objectives as diverse as patient tracking and location-based marketing.

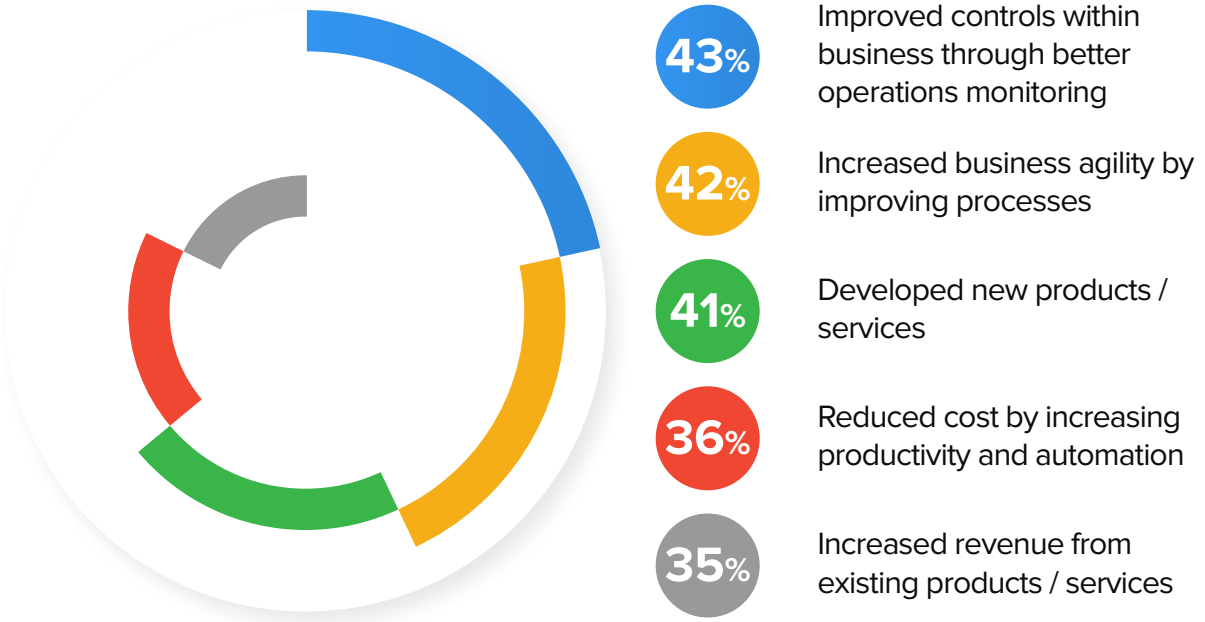
EXPECTED BENEFITS FROM EDGE COMPUTING



The Techaisle SMB IoT adoption trends research illustrates that innovative SMBs initially deployed edge computing as automated systems, primarily in security or surveillance applications, and to provide proactive alerts to help operators of various systems identify issues requiring immediate attention. These deployments centered on automated M2P, or "machine to person," communications, narrowly focusing on industrial or physical-goods environments. In the future, the implementations will increasingly concentrate on M2M (machine to machine) communications and applications. Simultaneously, the edge itself will extend well beyond IoT bounds to support remote workers and integrated multi-location collaboration.

Research findings show that the edge addresses the critical business challenges of SMBs. Improved controls help SMB executives manage uncertainty, and increased agility supplies the means of responding to requirements and opportunities. At the same time, edge innovation connects with coveted business results such as contributions to new product and services development, cost reduction, improved productivity, and revenue growth.

BENEFITS REALIZED FROM EDGE DEPLOYMENTS



An essential characteristic of the edge is that it provides two different business benefits: it empowers distributed work, and it enables organizations to use technology in ways that align with specific business needs, opportunities and characteristics.

SMBs that innovate today don't just gain advantages today – they are also creating future-ready environments that will sustain their businesses through changing economic tides.

EDGE IS THE 'GLUE' THAT OPTIMIZES DISTRIBUTED WORK ENVIRONMENTS

Edge provides real advantages in every context where workers and suppliers/customers benefit from distributed, collaborative environments – and as the world learned with the pandemic, every business has a requirement to enable distributed work and collaboration.

Effective edge architectures address some of the most pressing IT challenges faced by SMBs. Effective edge deployments enhance customer experience by ensuring that employees are available to support the customers – wherever the employee is. Because systems and employees are distributed, the edge and corporate systems must

be in sync. Corporate systems, updated through central file management and accessed through high-capacity networks, deliver consistent, correct information when needed. Well-designed edge solutions manage security, protecting users, customers, and corporate data while ensuring consistent data flows. And edge systems 'future-proof' the IT foundations supporting SMB businesses, modernizing resources used in turn to support new autonomous, hybrid, and distributed work capabilities.

INDUSTRY-SPECIFIC SOLUTIONS AMPLIFY THE ADVANTAGE FOUND AT THE EDGE

While they facilitate 'horizontal' distributed work requirements, edge solutions have also proved adaptable to specific vertical environments. Some examples of industry-specific edge functions include:

Manufacturing, primary resources:

Automated control, plus logistics

Retail:

Integration of video cameras with POS and inventory systems to identify shrinkage and product outages

Transportation/logistics:

Fleet management, delivery tracking

Healthcare (hospitals):

Patient care systems, asset management systems, systems incorporating wearables

Financial services and retail:

Settlement, especially if tied to 'systems of insight'; loyalty-type programs

Business services:

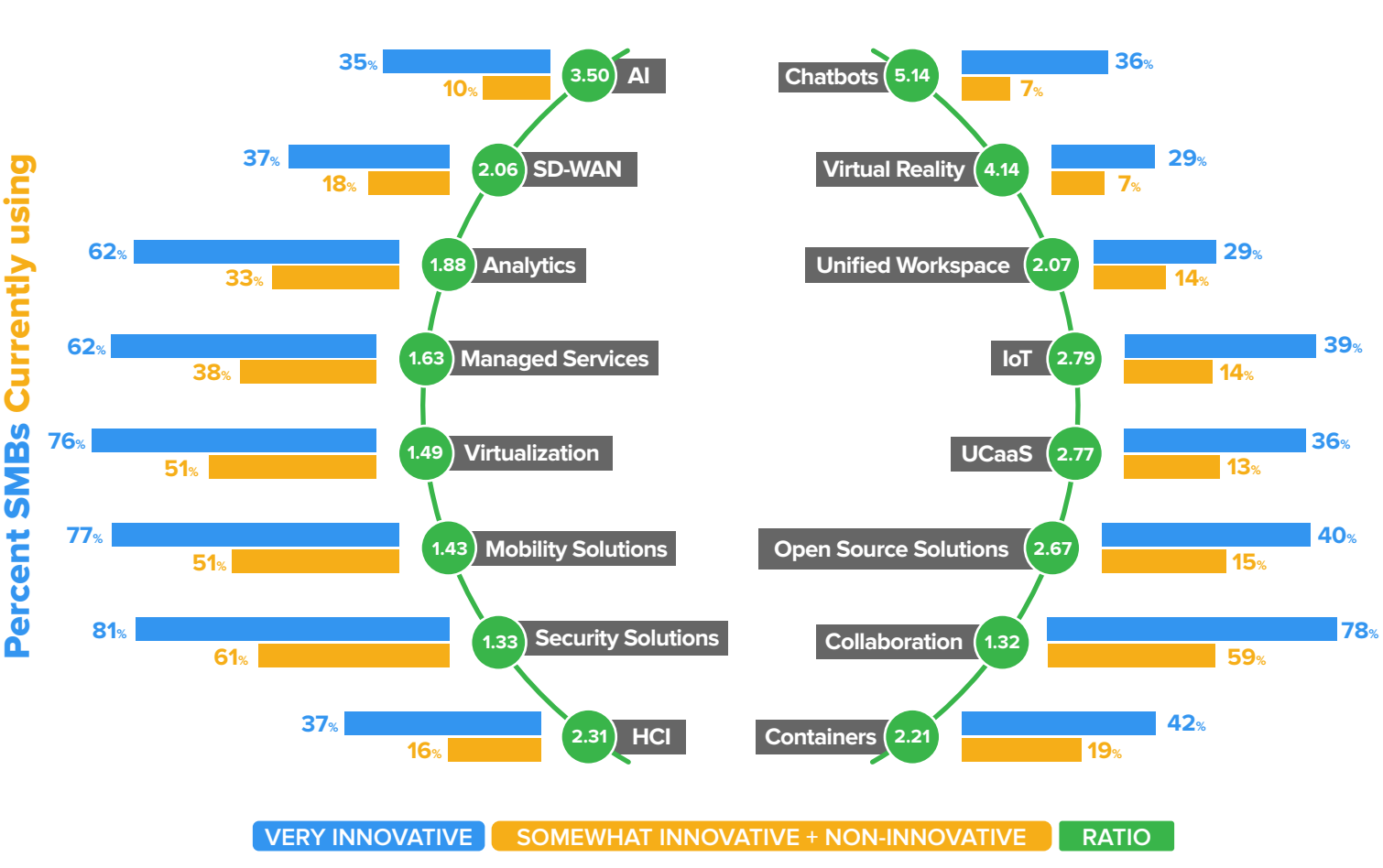
Individual-specific solutions that either use or will use ML/AI as an essential solution component

This unique ability to deliver business benefits and support for industry-specific requirements is one reason SMBs invest in and reap benefits from edge deployments. However, the adoption of edge technologies isn't itself the key to obtaining business benefit – success follows the effective use of new technologies within existing business processes or creating new products or services.

DRIVING INNOVATION - INNOVATIVE SMBS INVESTING IN EDGE TECHNOLOGIES

How do new technologies deliver edge innovation to SMBs? To answer this question, Techaisle analyzed survey results that capture the differences between 'very innovative' and 'somewhat' or 'non-innovative' SMB adoption rates for advanced technologies.

3X INNOVATIVE SMBS ARE INVESTING IN NEW TECHNOLOGIES AS COMPARED TO SOMEWHAT INNOVATIVE SMBS



The graph highlights some technologies that have limited traction but which have been deployed by SMB innovators to address specific objectives – process improvement, new product development, productivity, revenue growth. For example, firms that have deployed chatbots find that they contribute meaningfully to new sales opportunity funnels. Virtual reality offers another example of how innovative SMBs are gaining a competitive advantage from advanced IT capabilities. AR/VR systems support workers in many environments, ranging from field maintenance to medicine. They are also used as marketing aids to demonstrate physical spaces or products through a virtual lens.

THE PATH – AND ITS POTHOLES

Each breakthrough technology has its advantages and requirements, but successful technology adoption tends to follow a well-defined path. The process starts with identifying issues common to multiple areas within the business. It should not begin with a point solution to a particular problem (which 'dead ends' future development) or an IT department initiative that is not rooted in pressing business needs (which will lack buy-in).

After meeting initial requirements, the core technology should embed in a roadmap that connects different business uses. As new systems come online, SMBs need to look for ways to gain net-new advantages from linking the various solutions to inform 'systems of insight' that provide input to management strategy. For example, most advanced IoT users are using data collected from control systems to inform core business applications or 'systems of insight' that provide management strategy inputs.

KEY REQUIREMENTS/CHALLENGES

Edge adoption isn't without its challenges. SMBs that are determined to reap the benefits of edge need to be prepared to address skills, security, and complexity issues:

COMPLEXITY:

An architecture that distributes data, devices, storage, and processing power across many locations is more complicated than centralizing resources within an office. SMBs need to have a plan/roadmap that identifies how they will manage distributed data, support remote workspace environments, and establish core networking, compute, and storage infrastructure that scales with the growing demands that will accompany edge success.

SECURITY:

With its multiple, diverse endpoints connecting internally and externally via a wide range of public and company-managed networks, edge computing deployment prompts a host of security concerns. Security is always important. SMBs moving to the edge need to be conscious of having the policies, processes, and technologies required to secure information and connections wherever they occur. While SMBs adopting edge should be aware of a data breach's perils, this type of risk accompanies all digital business strategies. Firms deploying edge have an opportunity to embed appropriate safeguards within their plans for business infrastructure, often beginning with identifying all devices already connected and setting proper access.

SKILLS:

The two previous points highlight the need for advanced IT skills – to integrate and secure systems and data, to deliver capability and support. The demand for these skills is apparent in edge planning – but in reality, it isn't an 'edge issue.' All SMBs looking to innovate to build viable market positions need to deploy IT infrastructure that will support digital business, which will require access to advanced skills. If the skills are not present in the organization, prudent SMBs work with external experts. These experts are often channel partners or other firms that partner with their primary product suppliers – to ensure system agility and reliability and the safety of their customers, users, and IT environments.

TOMORROW'S BUSINESS INFRASTRUCTURE TODAY

There is no 'one size fits all' approach to successfully developing and deploying edge solutions. However, some essential edge system elements need to be in place, regardless of whether the edge solution controls remote medical or monitoring devices, secure unmonitored facilities, or support a remote workforce. These include:

A DIGITAL INFRASTRUCTURE ROADMAP

Every journey begins with a plan. SMBs that are planning to capitalize on the benefits of edge need to articulate the requirements of a digital business foundation and ensure that they have a strategy for sourcing the products and skills required to build a growth platform.

AN ACTIVE/INTERACTIVE PERIMETER

Edge is unique in its emphasis on devices, including IoT-style sensors and the laptops, tablets, and smartphones used by employees, customers, suppliers, and partners, that contribute to intelligence across the business. These devices support collaboration, insight gathered from multiple locations, and delivery of data that enables action when and where it is required.

A FLEXIBLE, RESPONSIVE HYBRID CORE

Consisting of capable, scaled-for-purpose servers, storage, and gateways. Edge solutions have intelligence everywhere in the fabric and rely on dense networking to ensure that they collect and process the data throughout the business environment.

AN EDGE-AWARE BUSINESS STRATEGY

That will recognize the advantages that can be gained from edge computing and align critical business processes – collaboration, outreach, responses to opportunities to improve customer relationships – to capitalize on the benefits of edge.

The above is an extensive list, but SMBs can tackle them incrementally. SMBs that start with a roadmap can build towards an edge strategy that will support long-term growth in their organizations. With dynamic digital business infrastructure delivered by best-in-world IT product suppliers and supported by innovative integrators and digerati, SMBs enhance their innovation and customer connection capabilities while tapping into the digital world's limitless scale.

TAKING THE EDGE PLUNGE

You've read this paper – you've validated its perspectives on benefits and requirements – and now you are ready to commit to an edge strategy. What are the critical criteria used to select an edge technology supplier? We would urge you to look for: a supplier with a deep understanding of SMB needs; a technology innovator with products that include 'scaled for SMB' servers, storage, and networking products, as well as the end-user devices needed to extend the workplace to the edge; and an ecosystem leader with a strong partner community that can offer tailored support to your small or mid-sized business.

About techaisle

Techaisle is a global SMB, Midmarket, and Channel IT Market Research and Industry Analyst organization focused on simplifying, expanding, and growing clients' share in three of the most complex market segments. Techaisle's premise is that Go-to-Market strategies require insightful research, flexible data, and more in-depth analysis. Understanding the value of data consistency across markets to inform strategic planning, Techaisle is holistic in its approach to insights and provides globally consistent analysis across geographies. To achieve its objectives, Techaisle conducts in-depth surveys with end-customers and channels to understand market trends, opportunities, buying behavior, purchase intent, and IT priorities. Besides covering topics such as cloud, managed services, mobility, IoT, virtualization, analytics, artificial intelligence, end-points, collaboration, HCI/converged infrastructure, security, and digital transformation, its channel research coverage provides an in-depth understanding of resellers and channel partners globally. Techaisle provides insights built on a robust data-driven foundation, and its analysts are conversant with both primary research and industry knowledge, which is a rare combination. Techaisle offers its clients: Syndicated Research, Custom Primary Research, Consulting Engagement, and Competitive Intelligence.

www.techaisle.com

408-2534416

5053 Doyle Rd, Suite 105,
San Jose, CA 95129