

White Paper

Insights from Modernized IT: Modular Compute Can Have a Big Impact

A Detailed Study and In-depth Analysis into the Impact of Modular Servers on an IT Transformation

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August 2018

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The IT Status Quo Is Being Disrupted

For many companies, risk aversion still drives IT. Given that today's businesses depend upon digital services, IT organizations have traditionally and prudently prioritized reliability and predictability. If an IT service becomes unavailable, often some portion of the business stops. And if the business stops even for just a few moments, revenue can be impacted. Modern business demands fast and flexible IT. This new reality is causing a shift in priorities – Modern IT organizations favor speed and agility over predictability and reliability. For modern IT organizations, focusing on reliability and predictability is a losing battle and, as a result, aging IT organizations—as defined by ESG research—are struggling.

According to ESG research of aging IT organizations:

- 74% of IT organizations balance priorities of IT service delivery between reliability/predictability and speed/agility.
- 49% see themselves as not delivering IT services at the right pace, or are not aware of whether they are or not.
- 32% say their line-of-business consumers (LOBs) are dissatisfied with the time it takes to provision on-premises infrastructure for workloads, or are not aware of whether they are dissatisfied or not.
- 31% say their LOBs are dissatisfied with the time it takes to expand on-premises infrastructure for workloads, or are not aware of whether they are dissatisfied or not.

Reliability is important, but given today's IT demands, just being reliable isn't good enough.

The Rise of the Digital Economy

The realities of the modern digital economy are disrupting business, which in turn is disrupting IT. With the rise of the digital economy, a direct link is forming between the effective use of data and positive business outcomes. Traditionally, IT services were required to do business—like electricity, it is necessary, but not a differentiator. The digital economy has changed this dynamic.

As the use of analytics and the Internet of Things (IoT) grows, data has become more than a necessity. Data is a differentiator. With the advent of modern technologies like artificial intelligence, machine learning, and deep learning, it is now possible to turn raw data into valuable insights in just minutes or hours rather than days, weeks, or months. Insights from data can help businesses better engage with their customers, increase productivity, and, in some cases, introduce new revenue streams. Older and more traditional companies are struggling to compete against businesses born today. Modern, digitally-defined companies require fewer man-hours to maintain systems and can deliver superior outcomes faster.

In today's digital economy, faster IT equates to a competitive advantage. Digitally-defined companies have a huge IT advantage and are capitalizing on it with faster, more agile IT service delivery. Younger and more modernized companies prioritize outcomes focused on growth and innovation. They can adapt their environment to take advantage of new technologies, analytics, and cost advantages. These advantages equate to improved business outcomes, which in turn enable the collection and analysis of more data, which allows for further improved insights. In other words, for a digitally-defined business, the competitive advantages in IT service delivery and data analysis have the potential to become bigger and bigger over time, turning small advantages into large ones.

The Importance of IT Transformation



61%

of Modernized IT organizations **prioritize speed and agility over reliability and/or predictability**

To help IT decision makers and business leaders understand the importance of IT Transformation, ESG conducted a detailed research study designed to uncover key learnings about both IT Transformation and the importance of server compute capabilities to transformation activities and outcomes. ESG surveyed 500 IT decision makers covering both large midmarket (500 to 999 employees) and enterprise (1,000 or more employees) organizations across North America (US and Canada), Western Europe (UK), and Asia Pacific (Australia, Hong Kong, and New Zealand). The study also spanned multiple industry verticals, including financial, manufacturing, government, education, and health care.

The study leveraged multiple questions on the adoption of both modern infrastructure technologies and IT process automation to assign each organization participating in the study an IT Modernization maturity score. Based on that scoring, each participant organization was ranked into one of three categories in order from least modernized to the highest level of modernization: *Aging* (23%), *Modernizing* (65%), and *Modernized* (12%). When the data from the *Modernized* IT organizations were compared with the data from *Aging* IT organizations, some stark differences emerge.

For example, *Modernized* IT organizations:

- **Prioritize speed and agility:** *Modernized* IT organizations are 13 times more likely than not to move at the right pace for the business, 93% to 7% (see Figure 1). They accomplish this by prioritizing speed and agility over reliability and predictability. This is not to say reliability is unimportant; it is still expected. The focus of IT, however, has shifted to speed and agility.
- **Deliver higher satisfaction to end-users and LOBs:** By focusing on speed, agility, and innovation, *Modernized* IT organizations are significantly more likely to satisfy their LOB end-users. As a result, these businesses gain in innovation, efficiency, and increased revenue opportunity relative to their *Aging* IT counterparts. For example:
 - **93%** of *Modernized* IT organizations say they are deploying IT services at the pace required by the business versus 51% of *Aging* IT organizations that can make the same claim.
 - **96%** of *Modernized* IT organizations say their LOBs are satisfied with the time it takes to provision on-premises infrastructure for workloads versus 67% of *Aging* IT organizations.
 - **99%** of *Modernized* IT organizations say their LOBs are satisfied with the time it takes to expand on-premises infrastructure for workloads versus 69% of *Aging* IT organizations.
- **Use 4x more modular compute than *Aging* organizations:** The median percentage of modular compute in the data center was four times larger in *Modernized* IT organizations than in *Aging* IT organizations. Additionally, among all organizations using modular servers, *Modernized* IT organizations were more likely than *Aging* IT organizations to achieve a number of benefits as a result of using modular servers. For example:

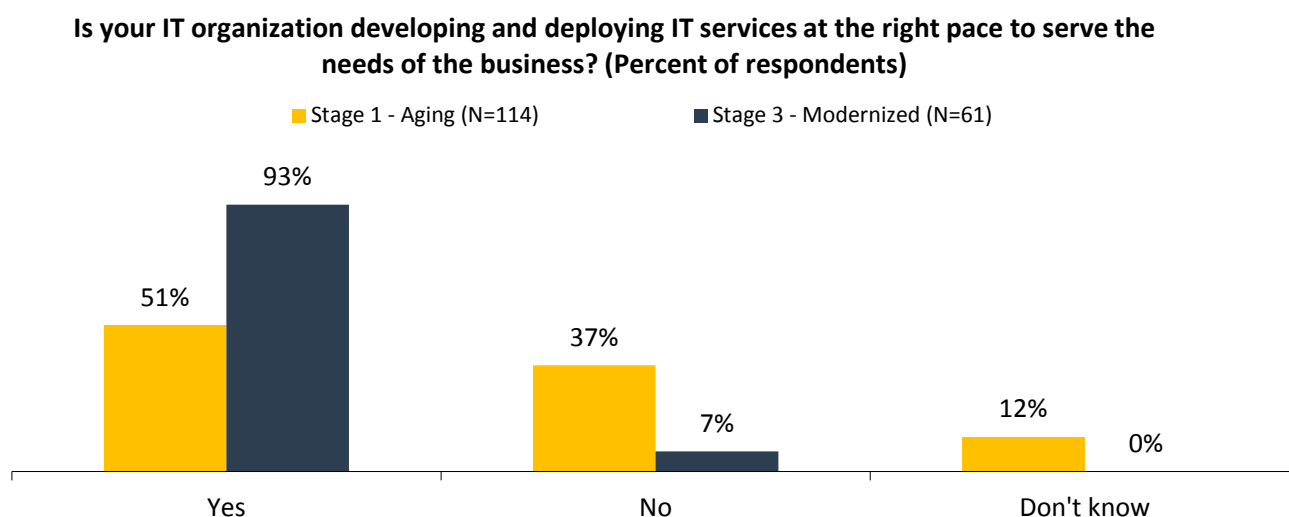


99%

Among Modernized IT, **99% of respondents report LOB satisfaction with infrastructure expansion** versus 69% of *Aging* IT

- *Modernized* IT organizations were more than 3.5x as likely as *Aging* organizations to experience easier manageability with modular compute.
- *Modernized* IT organizations were more than 2x as likely as *Aging* organizations to experience improved flexibility with modular compute.
- *Modernized* IT organizations were 2x as likely as *Aging* organizations to experience faster IT service delivery with modular compute.
- *Modernized* IT organizations were 2x as likely as *Aging* organizations to experience higher reliability with modular compute.

Figure 1. Modernized IT Organizations Deploy Services at the Pace of Business



Source: Enterprise Strategy Group

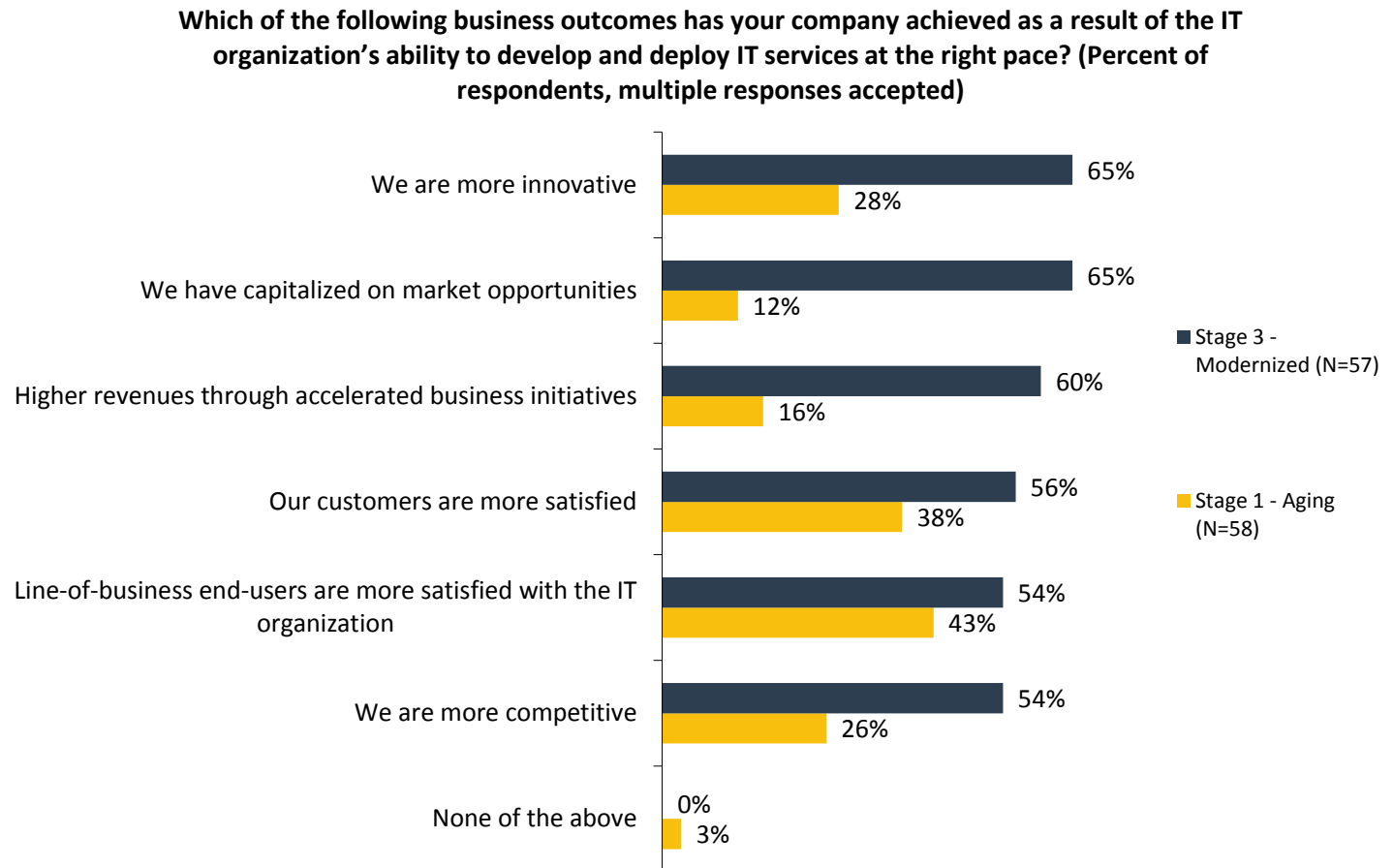
There is a clear discrepancy between *Modernized* IT organizations and their *Aging* IT counterparts. While much of the success that *Modernized* IT organizations achieve likely stems from the strategic decision to prioritize speed and agility, the data also suggests there is a synergistic quality between prioritizing speed and agility along with utilizing modern technologies. For example, *Modernized* IT organizations are not only more likely to leverage modular compute, but they also reap a greater number of benefits than their *Aging* IT counterparts from the technology. This research suggests that, as businesses become increasingly data-driven, the old *Aging* IT tendency to focus solely on reliability and predictability is simply not enough.

Beginning the Transformation Journey

The benefits of *Modernized* IT extend far beyond IT service delivery and the satisfaction of internal consumers. *Modernized* IT is a fundamental step to digitally transforming the business and reaping a greater set of rewards. Delivering IT services at the pace demanded by the business also brings with it a multitude of competitive and transformational outcomes (see Figure 2). Still, *Modernized* IT achieves superior benefits when compared to *Aging* IT, even when *Aging* IT is able to meet the pace and demands of the business.

Modernized IT organizations were able to achieve each of these benefits at a higher rate. What is even more interesting is that the more tangible business benefits, such as the ability to better capitalize on market opportunities and achieve higher revenues, were significantly more common among *Modernized* IT organizations by a rate of four to five times.

Figure 2. Business Outcomes Achieved through IT Speed and Agility



Source: Enterprise Strategy Group

In other words, it is possible for *Aging* IT to still meet the pace of business demands. When they are able to do so, however, the rewards for firms with *Aging* IT are significantly fewer. To stay competitive, *Aging* IT organizations need to become more like *Modernized* companies—to change, to be adaptable, to be flexible, and to catch up. But, what does an *Aging* IT company need to do to get there?

The simple answer is for *Aging* IT companies to model themselves after *Modernized* IT organizations. Budgets need to shift from maintaining existing IT to investing in future growth areas. Organizations need to reduce the capital and operational costs of *Aging* IT and shift their financial and personnel resources toward innovation, modern technology, and speed and agility.

The Emergence of Transformational Workloads

As businesses seek digital transformation, the introduction of more emergent and transformational workloads enables the opportunity to extract more value from data, but also creates new requirements for IT. In part, the speed and agility prioritized by *Modernized* IT better enables the business, but an agile and flexible IT architecture is also required for the emergent crop of transformational workloads. When assessing the difference between traditional and transformational workloads, the following definitions help to serve as a starting point.

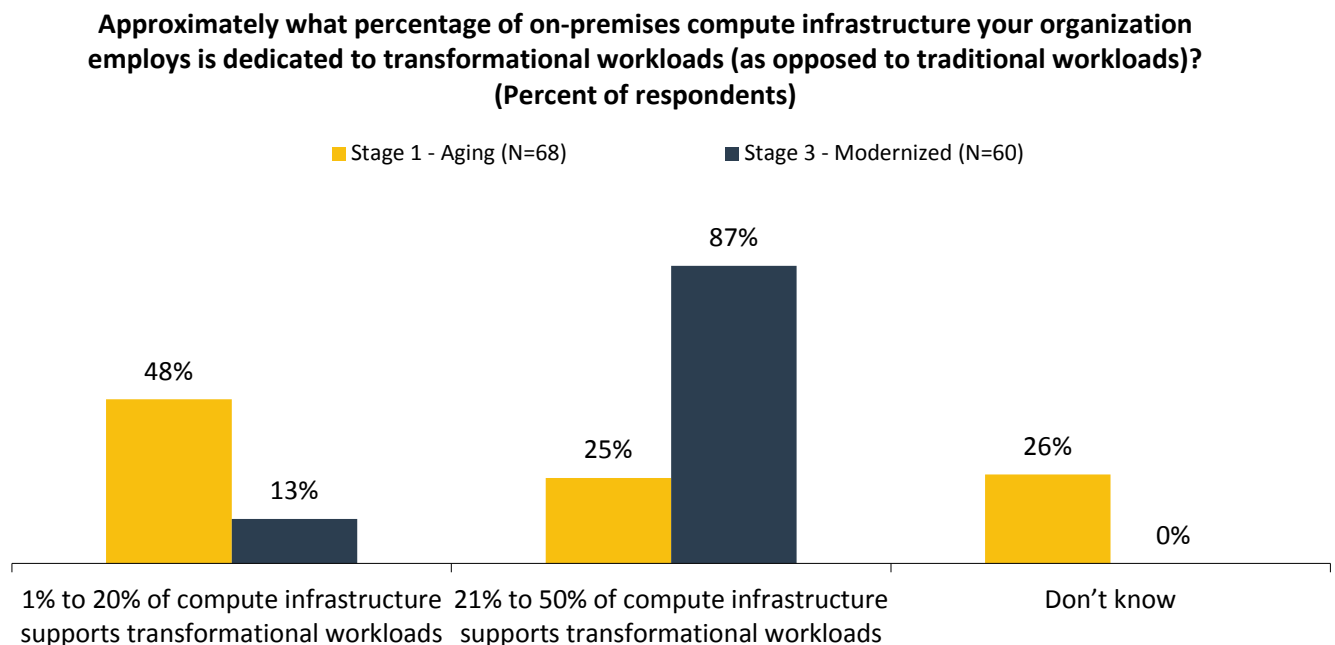
- A **traditional workload** includes mainstream workloads such as file, print, web serving, virtual desktop, collaborative applications, and content applications.
- A **transformational workload** includes new and emerging workloads such as structured data analytics, unstructured data analytics (cognitive/AI), and cloud-native applications.

In other words, traditional workloads enable traditional business. Transformational workloads, on the other hand, are designed to extract more value out of data and then deliver insights designed to make the company smarter, more efficient, and able to enter new markets, as well as develop new revenue streams. Transformational workloads more directly align to business results, and it is this alignment that drives the emphasis for greater speed and agility. The supporting IT infrastructure cannot be the bottleneck, but must be able to adapt and evolve if the business is to stay competitive. It is no surprise that *Modernized IT* organizations assigned a higher percentage of IT resources to transformational workloads (see Figure 3). For example:

- **87%** of *Modernized IT* organizations allocate more than 20% of their compute resources for transformational workloads compared to only 25% of *Aging* organizations.

This increased adoption and focus upon transformational workloads plays a core role in the business success achieved by *Modernized IT* companies.

Figure 3. Percentage of Compute Dedicated to Transformational Workloads



Source: Enterprise Strategy Group

Transform the Infrastructure

Achieving the necessary IT speed and agility requires a blend of the right IT personnel and the right modern infrastructure technologies. When the IT organizations that identified themselves as being able to keep pace with business demands were then asked to identify the reasons behind their delivery success, *Modernized IT* organizations were far more likely to identify the role that the infrastructure technology played in their success (see Figure 4).

For example, *Modernized* IT organizations are:

- **3x more likely to report infrastructure adaptability** as one of the biggest reasons behind their IT service delivery success.
- **2x more likely to report infrastructure scalability** as one of the biggest reasons behind their IT service delivery success.
- **2x more likely to report infrastructure flexibility** as one of the biggest reasons behind their IT service delivery success.
- **1.75x more likely to report infrastructure performance** as one of the biggest reasons behind their IT service delivery success.

In other words, *Aging* IT is also capable of delivering IT services on time, albeit less often, but their success may be more likely the result of hard work by the personnel. *Modernized* IT organizations, on the other hand, are more likely to achieve success thanks to the capabilities of both their personnel and their technology.

Figure 4. Top Seven Reasons Behind IT Service Delivery Success



Source: Enterprise Strategy Group

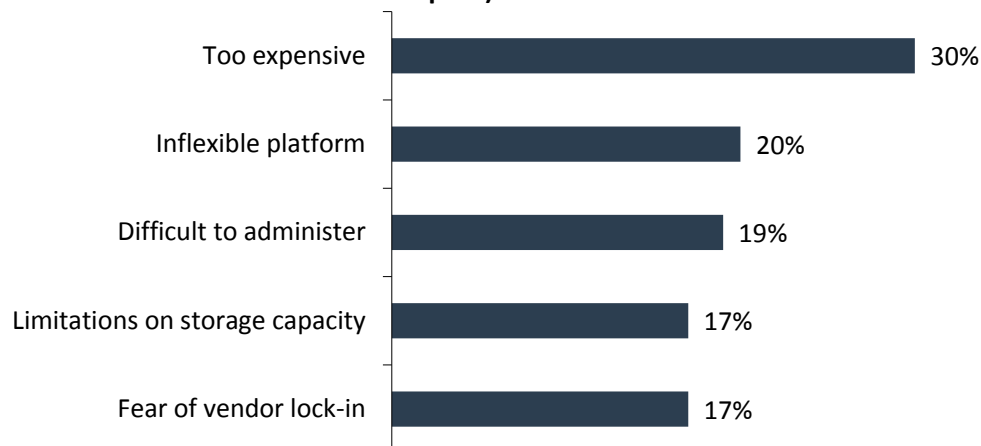
Role of Modular Compute in IT Transformation

A critical element in the deployment of modern IT infrastructure is the use of modular server technology. According to ESG's research, modular servers comprise a significantly larger percentage of the overall compute in *Modernized* IT data centers with a median of 20% versus *Aging* IT with a median of only 5%.

What are the perceptions holding IT organizations back from greater adoption of modular compute? The data in Figure 5 highlights the top five most common reasons that hinder IT organizations from deploying modular server technology among IT organizations that do not currently use modular servers. The most commonly identified concern was cost (30%), followed by other factors such as a lack of flexibility, and the perception that the servers are difficult to administer.

Figure 5. Top Five Most Common Reasons for Not Deploying a Modular Server Solution

For which of the following reasons has your organization not deployed a modular server solution into your environment? (Percent of respondents, N=119, multiple responses accepted)



Source: Enterprise Strategy Group

Respondents to this question, however, overwhelmingly indicated that, if a modular compute solution was available that addressed the concern(s) they identified, they would likely change their mind about modular server technology. This willingness to reconsider was even more dramatic among *Modernized* IT organizations, who were 12 times more likely to change their mind, versus the aggregate of all study participants, who identified a willingness at a rate of 5 to 1.

This increased willingness to integrate modular server technology by *Modernized* IT organizations provides further evidence to support the notion that *Modernized* IT organizations value the potential of new technology and are more willing to integrate newer technologies if those technologies offer superior capabilities. Interestingly, however, the concerns identified in Figure 5 appear to conflict with the set of data in Figure 6, collected from organizations that currently leverage modular servers, suggesting that some misconceptions exist for modular server solutions among non-users.

The Value of Modular Compute

When users of modular servers were asked to identify the benefits that they received from the technology (see Figure 6), the most commonly identified benefit was increased scalability (57%), followed by improved flexibility (54%) and easier manageability (50%). When this data is placed side by side and compared to the concerns of those organizations that do not leverage modular servers (see Figure 5), almost every top concern is identified as a benefit by a significant proportion

of users. In addition, the percentage of users that received a particular benefit is greater than the percentage of nonusers that identified the concern.

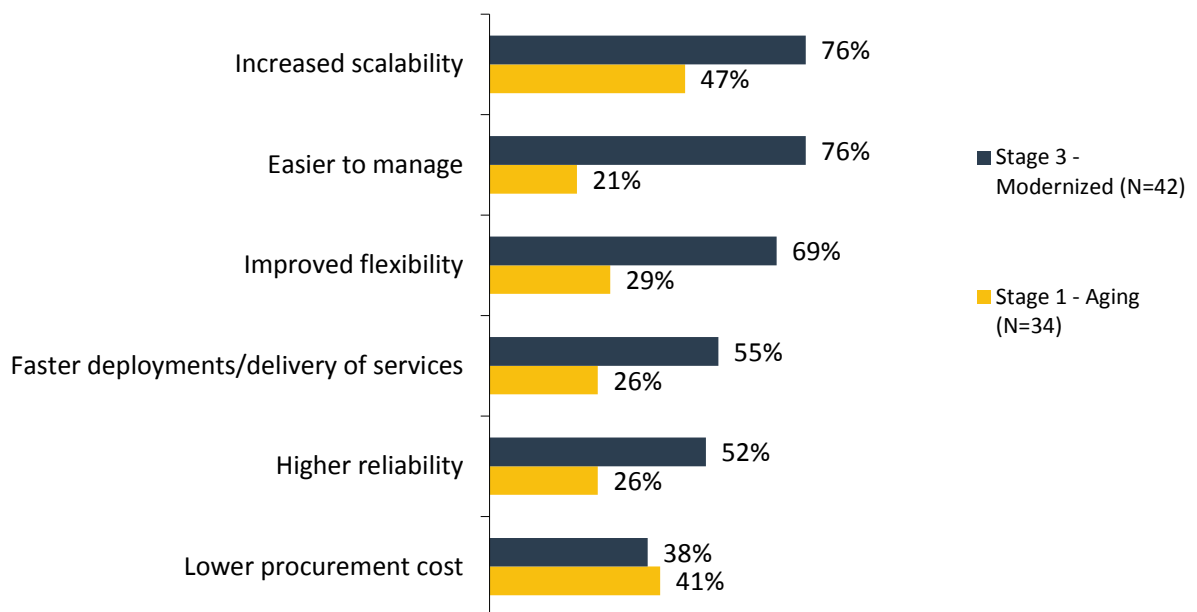
For example:

- 54% of modular compute users identified benefits to increased flexibility, as opposed to only 20% of non-users who identified the concern that the platforms were inflexible.
- 50% of modular compute users identified ease of management as a benefit, as opposed to only 19% of non-users who identified that the platforms were difficult to administer.
- This trend even continues for cost, as 39% of users identified lower procurement costs as a benefit, as opposed to only 30% of non-users that identified that modular servers were too expensive.

One argument for these discrepancies could be that IT organizations with higher demands might still have concerns with modular server technology, while those organizations with lighter demands achieved benefits. This argument fails, however, as in nearly every case, *Modernized* IT organizations were more likely to receive a specific benefit than *Aging* IT users.

Figure 6. Benefits Realized from a Modular Server Solution

Which of the following benefits has your organization experienced due to its deployment of modular server solutions into your environment? (Percent of respondents, multiple responses accepted)



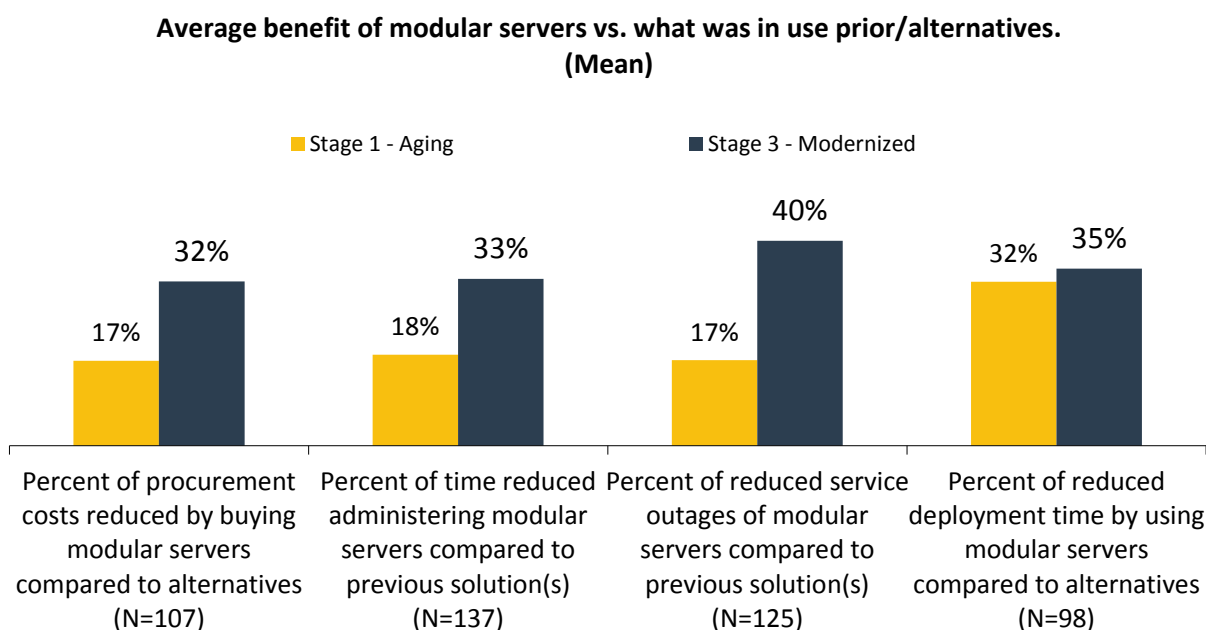
Source: Enterprise Strategy Group

The more likely rationale for the discrepancy is that there are still misconceptions about modular compute. And those misconceptions may stem primarily from *Aging* IT organizations. *Aging* IT organizations are likely to have a smaller modular compute footprint and achieve benefits at a lower rate. One example that supports the theory that the discrepancy is a result of misconceptions about modular compute is that cost was the concern most commonly identified by *Aging* IT environments (35%). *Aging* IT users of modular server solutions, however, identified that they achieved lower procurement costs at a rate of 41%, the only benefit that *Aging* IT achieved at a higher rate than *Modernized* IT organizations. It may be

that the emergence of new pay-as-you-go payment and leasing options could be helping to address the initial acquisition costs of modular server solutions, even for *Aging* IT environments. Or it could be that *Aging* IT started from a higher infrastructure cost point prior to switching to modular server technology.

When users of modular servers were asked to approximate the average benefits delivered by the technology, the benefits reported were far more substantial for *Modernized* IT than for *Aging* IT. For *Modernized* IT, each of the four benefits surveyed were reported to be higher on average, and for three of the four, the benefit reported was close to double that of *Aging* IT environments.

Figure 7. Quantified Benefits Realized from Modular Servers



Source: Enterprise Strategy Group

Why Does Modernized IT Use Modular Servers?

Ultimately, modular compute is a powerful and incredibly beneficial technology that plays a critical role in both IT Transformation and in enabling the success of *Modernized* IT organizations. When combined, the research data presents a compelling case for why *Modernized* IT organizations leverage modular server technology.

- **Increased scalability:** More than three out of four (76%) *Modernized* IT organizations using modular servers selected increased scalability, making it the most commonly identified benefit of modular servers. In addition, nearly half (49%) of *Modernized* IT organizations moving at the right pace for their business credited IT infrastructure scalability as a factor responsible for their success in timely IT service delivery. In other words, *Modernized* IT relies on scalable architecture and modular servers deliver.
- **Easier management:** Tied for the most commonly identified benefit among *Modernized* IT organizations using modular servers (76%), the simplified management of modular servers delivers significant savings to IT. On average, the improved ease of administration of modular servers reduced administration time by 33%.

- **Improved flexibility:** Modular servers delivered greater flexibility for more than two out of every three (69%) *Modernized* IT organizations using them. 46% of *Modernized* IT organizations credited flexibility and 51% credited adaptability of their infrastructure as factors responsible for their success in timely IT service delivery. The flexibility of modular servers plays a key role in IT service delivery.
- **Faster deployment/delivery of services:** More than half (55%) of *Modernized* IT organizations that use modular servers reported improvements in infrastructure deployment time. The average benefit was a 35% reduction in time spent. Modular servers not only speed up delivery, but also free up resource time for other, possibly higher value, tasks.
- **Increased reliability:** 52% of *Modernized* IT organizations using modular servers cited an improvement in reliability, helping to reduce service outages by an average of 40%. While *Modernized* IT prioritizes speed and agility, reliability is still a necessity and the data suggest modular servers deliver agility while simultaneously improving reliability.
- **Lower cost:** Despite being the most common concern among non-users, lower procurement cost was cited as a benefit by 38% of *Modernized* IT organizations, with an average saving of 32%. Reducing costs by nearly a third while simultaneously delivering the other benefits mentioned makes a powerful case in favor of leveraging modular servers.

The benefits of modular servers align almost directly with the priorities of *Modernized* IT. Modular servers deliver benefits in speed, agility, simplification, reliability, and cost not only at a high rate but the average impact of each benefit is substantial. While there are likely some misconceptions about modular server technology, the data suggests that modular servers play a key role in enabling *Modernized* IT organizations.

The Bigger Truth

As industries become more digitally defined, IT demands quickly exceed the capabilities of *Aging* IT organizations, to the extent that they cannot meet the requirements of their consumers, or worse, they do not know whether they are meeting them. Building a *Modernized* IT organization is not only beneficial, it has become a necessity. And, the rewards for the agile and speedy delivery of IT are substantial. Businesses with *Modernized* IT are more innovative, capture more market opportunities, achieve higher revenue, improve customer satisfaction, and are simply more competitive.

Substantial Benefits from Modular Compute Enable Modernized IT



EASIER TO MANAGE

Reducing administration time by 33% on average



FASTER TO DEPLOY

Reducing deployment time by 35% on average



MORE RELIABLE

Reducing service outages by 40% on average



LOWER COST

Reducing procurement costs by 32% on average

For *Aging* IT organizations, transformation is a must. There are multiple steps to the IT transformation journey: the adoption of emerging and transformational workloads, the increase of automation, and the use of modern technologies. From the compute side, modular server technology has an answer, allowing organizations to deliver substantial benefits to speed, agility, cost, and reliability. Modular servers offer the benefits *Modernized* IT organizations require, enabling both the IT organization and the larger business to succeed. And most importantly, the data reveals that there is a multiplier effect when *Modernized* IT and modular server technology are combined. The benefits are larger and more prevalent. In an era where business competitiveness is defined by digital capabilities, the IT organization becomes a differentiator. Giving your IT organization the best tools to succeed, such as modular servers, may be the difference between thriving in this digital economy, and just being part of the status quo.

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