Analytics and Cloud Infrastructure Spending During Disruption

A Yellowbrick Data White Paper

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EXECUTIVE SUMMARY

The world has changed dramatically since March 2020. The rapid spread of the novel coronavirus and its resulting illness, COVID-19, have completely altered business, personal, and social life for the immediate future.

Yet, even given the dramatic impact of unprecedented business closures, stay-at-home orders, and rapid evolution of work-from-home and distance-learning environments for schools, the world is moving forward to find a new equilibrium between lockdown and business as usual.

There's no doubt that individuals and businesses will continue to step up in unprecedented ways to contribute assistance, ingenuity, and care to individuals and health care providers impacted by COVID-19. At the same time, businesses have a responsibility to continue operations, keep servicing customers, and support employees working in our new reality.

To better understand the immediate impact of all these unprecedented changes on businesses and their IT infrastructures, Yellowbrick Data recently surveyed 1,002 enterprise IT managers and executives to uncover their infrastructure priorities during this era of economic uncertainty and disruption.

The survey revealed some initially surprising results, given all the challenges that organizations are coping with.

For example, it showed that organizations are continuing to invest in IT and data infrastructure during these difficult times (for example, more than 63% said they were investing more in their analytics infrastructure). Respondents also highlighted why. Almost 73% desire better performance from data warehouses or their data analytics tools—an important consideration in a year when, more than ever before, organizations will need to be rapidly analyzing business performance and results.

The survey also revealed insights about most organizations' ongoing move to the cloud, with more than a quarter (27%) of enterprise leaders saying they do not trust public cloud vendors to prioritize their needs.

As a result, more than half (55%) of the executives surveyed are considering a hybrid cloud strategy—not a "cloud-only strategy"—for their cloud approach, in part because hybrid cloud approaches provide greater control (56%), a better-optimized network (54%), a blending of the security of private cloud with the power and services of a public cloud (52%), and lastly because hybrid cloud approaches provide a way to scale faster without compromising sensitive data (51%).

While the next year will bring rapid and unforeseeable changes to both our personal and business lives, it's important for people and businesses to start looking forward to building a "new normal" that enables fast, efficient, and effective business solutions in a safe environment that balances opportunity with social responsibility.

METHODOLOGY

Propeller Insights conducted an online survey of 1,002 US IT managers and executives working at enterprises with more than 1,000 employees. The survey ran between April 30 and May 11, 2020, with all participants self-identifying their position, title, and company size. Responses have a maximum margin of sampling error of +/- 3 percentage points, with a 95 percent level of confidence.

THE SURPRISING EFFECT OF THE PANDEMIC ON IT BUDGETS

Never before have we seen such a rapid change in the business environment as we have since March 2020. Many businesses closed temporarily due to local orders, while others have completely shifted staffing locations—telling employees to work from home for a few months or the foreseeable future.

And as the pandemic unfolded, everything from standard business operations to future plans was up in the air. Given all that uncertainty, conventional wisdom assumed that organizations would cut back IT budgets and take the most conservative approach they could.

But the survey showed that not all IT budgets are being cut. In fact, even with the economic challenges that COVID-19 has posed for them, almost 40% (38.4%) of enterprises are keeping their IT budgets unchanged (flat) *or* increasing them.

For many organizations, the rapid changes and uncertain future actually open up new business opportunities and ways to expand markets. These organizations are the ones most likely to be expanding their IT budgets and focusing on increasing competitive advantage and future growth by looking for new business opportunities.

> **Yellowbrick takeaway**: *While some organizations are cutting IT budgets in response to the COVID-19 pandemic, almost 40% are not. Organizations that invest proactively during periods of dynamic change are more likely to be able to proactively capture new business opportunities or drive increased sales than organizations that cut back.*

DATA INFRASTRUCTURE AND ANALYTICS OPPORTUNITIES

IT budgets allocate money to many technical areas, from IT staff to telecommunications to hardware, software, services, and more. Most organizations have a vast number of IT initiatives or projects competing for limited allocations of IT funding. Understanding where companies are spending scarce resources shines a spotlight on areas of high value.

That's why one portion of the Yellowbrick Data survey explored what investments enterprise IT leaders considered top priorities. The results are indeed illuminating.

For large proportions of respondents, investments in data infrastructure and analytics are a top priority. Consider the following metrics the survey uncovered:

- Data warehouse modernization is important for almost 90% of enterprises this year. For 55% it is very important, and for an additional 35% it is important.

- Getting more business value from their data lake is important for more than 95% of enterprises. For 61% it is very important and for 35% it is important.

- For almost 2/3 respondents, investments in analytics infrastructure are important, with 27% investing a lot more and an additional 37% investing somewhat more.

While many organizations are confronting broader and more urgent business challenges than they've ever faced before, there's solid logic in the implication that many will be focusing on, or investing in, areas such as data warehouse modernization, obtaining greater value from data lakes, or investing additional resources in their analytics infrastructure.

That's because all these areas have a direct impact on an organization's ability to respond to business change. In fact, they all have a direct impact on how quickly an organization can respond, as well as a direct impact on it's ability to identify new opportunities and prioritize them. Today's disruptive challenges mean that organizations will have to make more decisions, and probably more important decisions, within a rapidly changing business environment. Technologies that enable more-effective and quicker business decisions will be critical to the long-term success of many organizations.

Without a modern data warehouse, a functional data lake, or efficient data analytics infrastructure, organizations simply can't analyze rapidly changing business conditions (which is more important now than ever before) to identify new opportunities or better ways to serve their customers.

Yellowbrick takeaway: *IT budgets can be a leading indicator of what technologies have the opportunity to most positively impact future corporate revenues and profitability. The results from the Yellowbrick Data survey indicate that a clear majority of IT executives surveyed feel investments in data warehouse modernization, more-effective data lakes, and more-efficient data analytics infrastructure will have a positive impact on corporate success during these disruptive times.*

THE VALUE OF DATA ANALYTICS AND DATA WAREHOUSES

Given that most businesses will face more changes and challenges over the next couple of years, it's not surprising that their IT executives are increasing investments in data analytics and modernizing their data warehouses.

In fact, the results from the Yellowbrick Data survey highlight the specific key reasons driving such investments. From the survey, the top four reasons are:

1. Almost three fourths of respondents (73%) want better performance.

2. More than half (at 54% and 52% respectively) want a solution that is easier to use and lower cost (reasons two and three).

3. Almost half (48%) say that new enterprise apps require new solutions.

Even with a pandemic, business data volume is going nowhere but up. From real-time data to vast amounts of web-generated data to large-scale transaction systems, organizations are gathering more data at a faster rate than in any time in history.

And all this data contains insights that are critical for running the business—from simple transactions to analysis opportunities that can yield important insights for improving operations, identifying new opportunities, or increasing competitiveness. For example, the right data and business analysis can yield insights into how an organization can better align its products or services to customers or their buying patterns.

Capturing those insights requires fast, robust analytics. For example, investment dashboards require sub-second refreshes that include real-time and historical data. Portfolio managers must manage tens of thousands of financial positions without lag time. Banks must detect and prevent fraud instantly, using real-time and historical data. They also need to manage risk across complex investment vehicles in response to evolving regulations.

That's why responsive data analytics are so critical for staying competitive. The longer it takes for an enterprise to identify insights from its vast data sources, the more the business will suffer. Data is valuable only when it's put to use, and if it's too cumbersome or slow to be put to use in a timely manner, the business is losing huge opportunities.

> **Yellowbrick takeaway:** *No matter how good an organization's IT infrastructure is, there's always room for improvement, especially when disrupted business cycles are set to demand faster and more-proactive responses from businesses. That's probably why the Yellowbrick Data survey revealed that leading IT executives had four reasons for investing more in data analytics and modernizing data warehouses. Specifically, survey respondents highlighted the goals of better performance, easier-to-use solutions, lower-cost solutions, and new solutions for new types of enterprise applications.*

CONCERNS ABOUT POTENTIAL CLOUD STRATEGY PROBLEMS

At the same time that organizations are investing in, or planning to invest in, data analytics and modernizing data warehouses, there's another critical area allocated within most IT budgets: the cloud.

Whether you're a retailer, a financial services company, an insurance company, a telecommunications company, or any other type of enterprise, it's a good bet that part of your IT strategy involves significant investments in moving applications or resources to public cloud platforms, or deploying new services or applications on cloud platforms.

Cloud platforms provide a variety of potential benefits over traditional on-premises IT solutions. In fact, respondents to the Yellowbrick Data survey revealed the top three key benefits they expected from their cloud investments (they were asked what their top choice was, limited to one answer only):

- 23% said cost savings in infrastructure

- 18% said business flexibility

- 16% said cost savings in IT staff

These responses are in line with the typical reasons for considering cloud solutions. Cloud solutions can provide considerable cost savings in infrastructure, since the computing and data storage resources are moved to the cloud provider. They can also increase flexibility, since new solutions can be created and deployed without the architecting, acquisition, testing, deployment, and hands-on management required with on-premises products. And cloud solutions allow organizations to off-load the staff resources required for operations and maintenance to the cloud provider.

Yet, when it comes to cloud strategies, it's important to recognize that there are deeper implications not highlighted in these responses, some of which were noted in the responses to other survey questions.

For example, despite enterprises' embrace of the cloud, some skepticism remains, with more than a quarter (27%) of enterprise leaders saying that they do not trust public cloud providers to prioritize their business needs.

In fact, risk mitigation in the cloud remains top of mind, with 82% of respondents saying they want hybrid or multi-cloud options to spread any risk from their cloud investments and an additional 67% saying there are some parts of their business they will not trust to any single cloud vendor.

It's true that, while cloud solutions have some great potential benefits, they also have some important limitations that organizations should be aware of. These can be especially important when it comes to an organization's data strategy, which, as we've seen in previous survey responses, has become an important investment objective for organizations.

The cloud alone will not save an organization's data strategy. That's because a winning data strategy doesn't come down to the location of the data or process resources, but instead comes down to the strategy itself. Moving data or data analytics to a cloud platform might free up some resources and make management simpler, but it might not yield the data analytics benefits a company would expect, especially in the case of a single public cloud deployment.

One of the biggest drawbacks to a single-cloud approach is that platform users are forced to accept vendor lock-in and the lack of flexibility that entails. And depending on the platform, a company might be beholden to a single cloud service provider, and it's specialized hardware and databases.

As we'll see from the next set of survey responses, many leading IT executives are already figuring out to overcome these limitations through the use of a hybrid cloud approach.

> **Yellowbrick takeaway:** *The Yellowbrick Data survey revealed that IT executives believe cloud solutions have the potential to save money, increase flexibility, and generate IT staff savings. But the survey also highlighted that more than 25% of respondents noted they don't trust their public cloud provider to prioritize their business needs. And perhaps most importantly, 82% said they wanted hybrid or multi-cloud options to reduce risk.*

THE ROLE AND VALUE OF A HYBRID CLOUD APPROACH

Hybrid cloud allows organizations to use a combination of on-premises solutions with public cloud infrastructure in a flexible and orchestrated way. It also allows organizations to move to public cloud infrastructures over time, gradually replacing selected on-premises solutions when appropriate. Hybrid cloud computing helps protect an organization's (often massive) investments in existing infrastructure (such as data lakes) while moving toward a more flexible, cloud-based future.

As we saw from their responses, companies are considering hybrid cloud approaches as an important strategy for reducing their risk in moving to the cloud. In fact, the Yellowbrick Data survey revealed that 55% of enterprises are looking at a hybrid cloud strategy as their cloud approach.

And perhaps more importantly, it further revealed the reasons that so many organizations are counting on hybrid cloud solutions over single-cloud approaches. The top four benefits selected by IT executives for a hybrid cloud approach were:

- 56% want more control over "what is where"

- 54% say their IT staff can better optimize the network

- 52% say they can get the security of their private cloud with the power and services of the public cloud

- 51% say they can scale faster without compromising sensitive data

These responses are in line with the typical reasons for considering cloud solutions. Most adopters would agree with the statement that cloud solutions can provide considerable cost savings in infrastructure, since the computing and data storage resources are moved to the cloud provider. They can also increase flexibility, since new solutions can be created and deployed without the architecting, acquisition, testing, deployment, and hands-on management required with on-premises products. And cloud solutions allow organizations to off-load the staff resources required for operations and maintenance to the cloud provider. However, many users are also surprised that cloud computing is riddled with hidden and unpredictable costs for things such as data egress and bandwidth, which can surpass the annual cost of on-premises systems.

When it comes to cloud strategies, it's important to recognize that there are deeper implications not highlighted in these responses, some of which were noted in the responses to other survey questions.

As we saw earlier, even with current business disruptions, many organizations are planning to invest in increased data analytics and data warehouse modernization initiatives. Such programs may be especially critical during the next few years of rapid and unpredictable business challenges.

That's why organizations should consider solutions, such as a hybrid cloud data warehouse, that combine both of these critical findings from the survey—the increased need for data analytics and the desire of organizations to move toward a hybrid cloud strategy.

A hybrid cloud data warehouse and data analytics solution can accelerate data access and analytics across a mixed architecture, while delivering high scalability, high concurrency, and universal access options.

A hybrid cloud data warehouse is a logical (and very effective) addition to a hybrid cloud environment. As organizations optimize IT architectures composed of best-of-breed clouds and existing on-premises equipment and services, adding in a purpose-built hybrid data warehouse helps organizations meet and exceed their own unique data access and business analytics needs.

It provides the best characteristics from cloud solutions (flexibility, capital savings, data center savings) with the best of on-premises data warehouse solutions (security, performance, scale, and predictable pricing). At the same time, a hybrid cloud data warehouse protects an organization's investments in on-premises hardware and software while providing an accelerated pathway to the cloud.

Yellowbrick takeaway: *The survey revealed that a majority of IT leaders (55%) are evaluating a hybrid cloud approach to their cloud strategy, and for specific reasons. The top four reasons cited by survey respondents for considering a hybrid cloud approach were: more control, better optimization, greater security, and scalability. When combined with the earlier responses on the importance of data analytics and data warehouse modernization, this makes a compelling case for a hybrid cloud data warehouse.*

SUMMARY

The next few years will be challenging for businesses of all types, as the world navigates a pandemic and finds ways to accommodate the personal, social, and business changes to keep our society safe and productive.

At the same time, businesses need to start working now to put the appropriate data analytics and modern data warehousing solutions in place to support a changing business environment that will require significantly more analytical capabilities than the pre-pandemic era. Organizations that are able to create a resilient, cost-effective, responsive hybrid cloud data analytics platform for their business will be in a much stronger competitive position to take advantage of new business opportunities and overcome potential business challenges.

If your data analytics or data warehouse capabilities aren't keeping up with your business needs, it's time to consider modernizing them.

Yellowbrick is a modern data warehouse that radically expands data bandwidth to support lightning-fast queries on petabytes of data while supporting thousands of concurrent users. It also provides a path forward for organizations with data lakes, since Yellowbrick can overcome data lake access limitations and empower analysts with the insights needed to improve decision-making and drive real business transformation.

In addition, Yellowbrick was designed from the ground up to support hybrid and multi-cloud deployments, enabling organizations to run their analytics workloads wherever it makes the most sense and minimize risk as they migrate to cloud.

To learn more about Yellowbrick Data, call us at 877.492.3282 or visit yellowbrick.com to book a demo today.

APPENDIX: SURVEY DATA

Survey Results - Data Infrastructure and Analytics Opportunities

15. How important a goal is Data Warehouse Modernization for you this year?
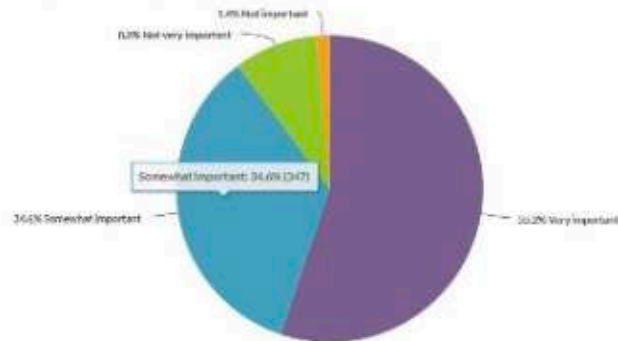
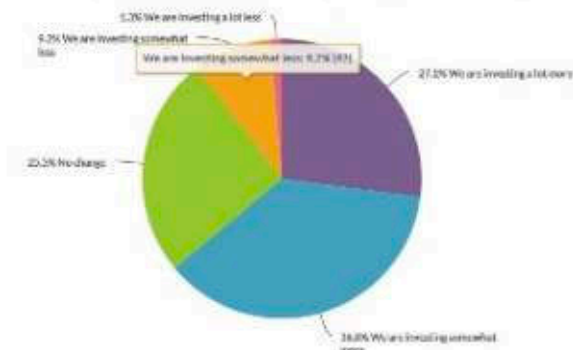| Value		Percent	Responses
Very important		55.2%	553
Somewhat important		34.6%	347
Not very important		8.8%	88
Not important		1.4%	14

Totals: 1,002

16. How important a goal is it to get more business value (i.e., actionable insights) out of your data lake this year?
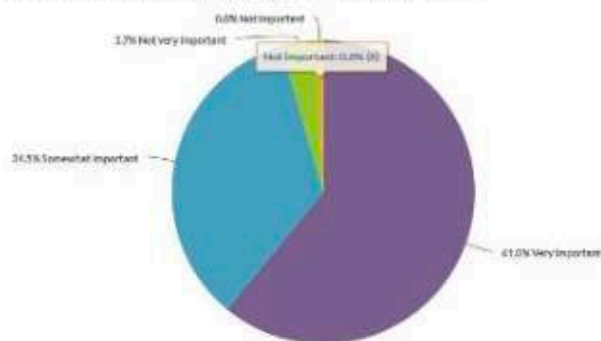
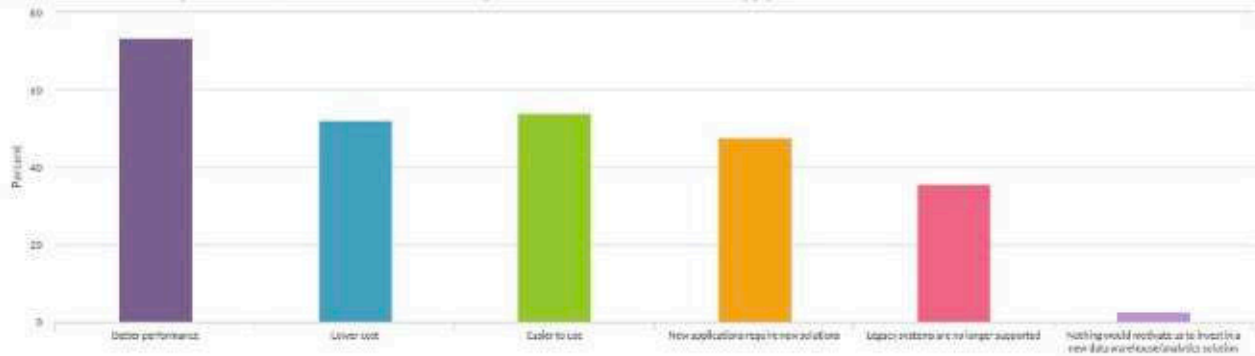| Value		Percent	Responses
Very important		61.0%	611
Somewhat important		34.5%	346
Not very important		3.7%	37
Not important		0.0%	8

Totals: 1,002

17. In the current climate of uncertainty, our investment in analytics infrastructure such as data platform, data warehouses, etc is:

Value		Percent	Responses
We are investing a lot more		27.1%	272
We are investing somewhat more		36.0%	369
No change		25.5%	256
We are investing somewhat less		9.2%	92
We are investing a lot less		1.3%	13
			Totals: 1,002

## Survey Results - The Value of Data Analytics and Data Warehouses

27. What would motivate you to invest in a new data warehouse/analytics solution? Please select all that apply.

Value		Percent	Responses
Better performance		73.3%	734
Lower cost		52.0%	521
Easier to use		54.0%	541
New applications require new solutions		47.6%	477
Legacy systems are no longer supported		35.5%	356
Nothing would motivate us to invest in a new data warehouse/analytics solution		2.7%	27

## Survey Results - Concerns About Potential Cloud Strategy Problems

14. What business result is your top priority to get from your cloud investments?
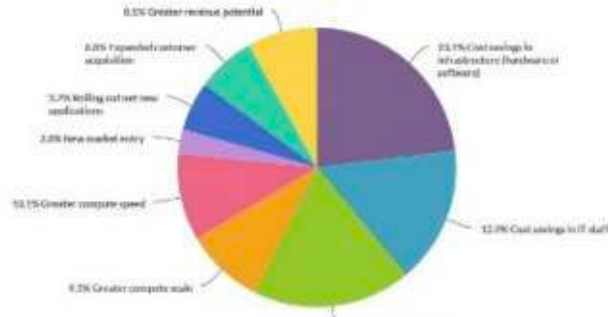
Value		Percent	Responses
Cost savings in infrastructure (hardware or software)		23.1%	224
Cost savings in IT staff		15.9%	154
Business flexibility		18.4%	178
Greater compute scale		9.1%	88
Greater compute speed		10.1%	98
New market entry		2.8%	27
Rolling out net new applications		5.7%	55
Expanded customer acquisition		6.0%	66
Greater revenue potential		8.1%	78

## Survey Results - The Role and Value of a Hybrid Cloud Approach

10. Which of the following best characterizes your cloud strategy today?
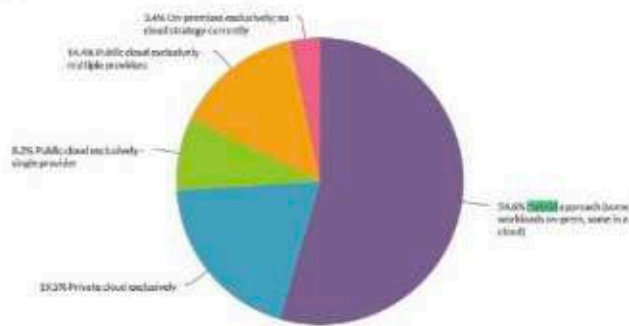
Value		Percent	Responses
Hybrid approach (some workloads on-prem, some in a cloud)		54.6%	547
Private cloud exclusively		19.5%	195
Public cloud exclusively - single provider		8.2%	82
Public cloud exclusively - multiple providers		14.4%	144
On-premises exclusively, no cloud strategy currently		3.4%	34

Totals: 1,002

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11. What are the benefits of the hybrid cloud approach? Please select all that apply.
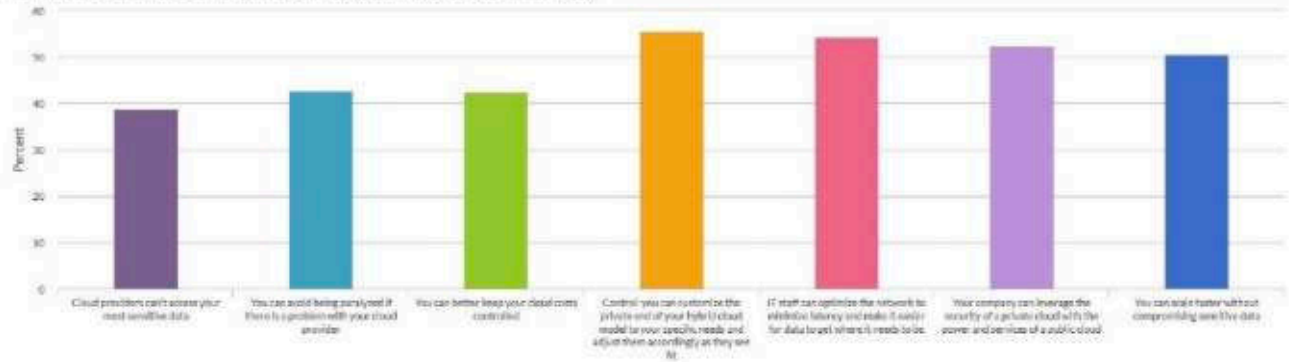
Value		Percent	Responses
Cloud providers can't access your most sensitive data		38.9%	213
You can avoid being paralyzed if there is a problem with your cloud provider		42.6%	233
You can better keep your cloud costs controlled		42.4%	232
Control: you can customize the private end of your hybrid cloud model to your specific needs and adjust them accordingly as they see fit		55.6%	304
IT staff can optimize the network to minimize latency and make it easier for data to get where it needs to be		54.3%	297
Your company can leverage the security of a private cloud with the power and services of a public cloud		52.3%	286
You can scale faster without compromising sensitive data		50.5%	276