

If you were able
to look into the
future, could you
capitalize on it?



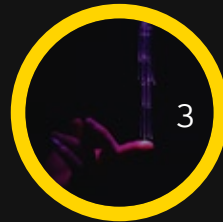
The better the question. The better the answer.
The better the world works.



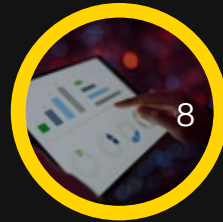
EY

Building a better
working world

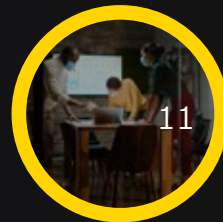
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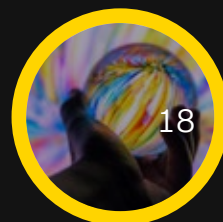
Trusted data,
intelligent analytics



Right talent, right skills



Active governance,
clear communications



A call to action

Introduction

A robust approach translates to a competitive advantage for capital investments according to a recent EY Global Capital Operations and Innovation Study.

Never has capital investment and operation been more significant for technology, media and entertainment and telecommunications (TMT) companies.

For TMT companies post-pandemic opportunities abound. The hyper scaling of content streaming services, the roll-out of 5G and the ubiquity of Internet of Things (IoT) all provide new business models, new customers and new revenue streams. Taking advantage of these opportunities will depend on well-placed and well-executed capital investments.

The EY organization surveyed global TMT executives to understand how they allocate and deploy capital. Two clear groups emerged, divided between “leaders” and “laggards.” The former, who represent 60% of survey, have more mature end-to-end processes underpinning capital investments and operations. They utilize advanced analytics and automation to make objective decisions, often in real-time. By contrast, the laggards are more focused on “housekeeping.” Their fundamentals are lacking so instead they prioritize data consistency and the alignment between systems.

Our methodology:



CONDUCTED

March 2021–April 2021

SURVEYED

500 executives

(SVP, EVP, C-suite and above)

SECTORS

Technology, media and entertainment, and telecoms companies

GEOGRAPHIES

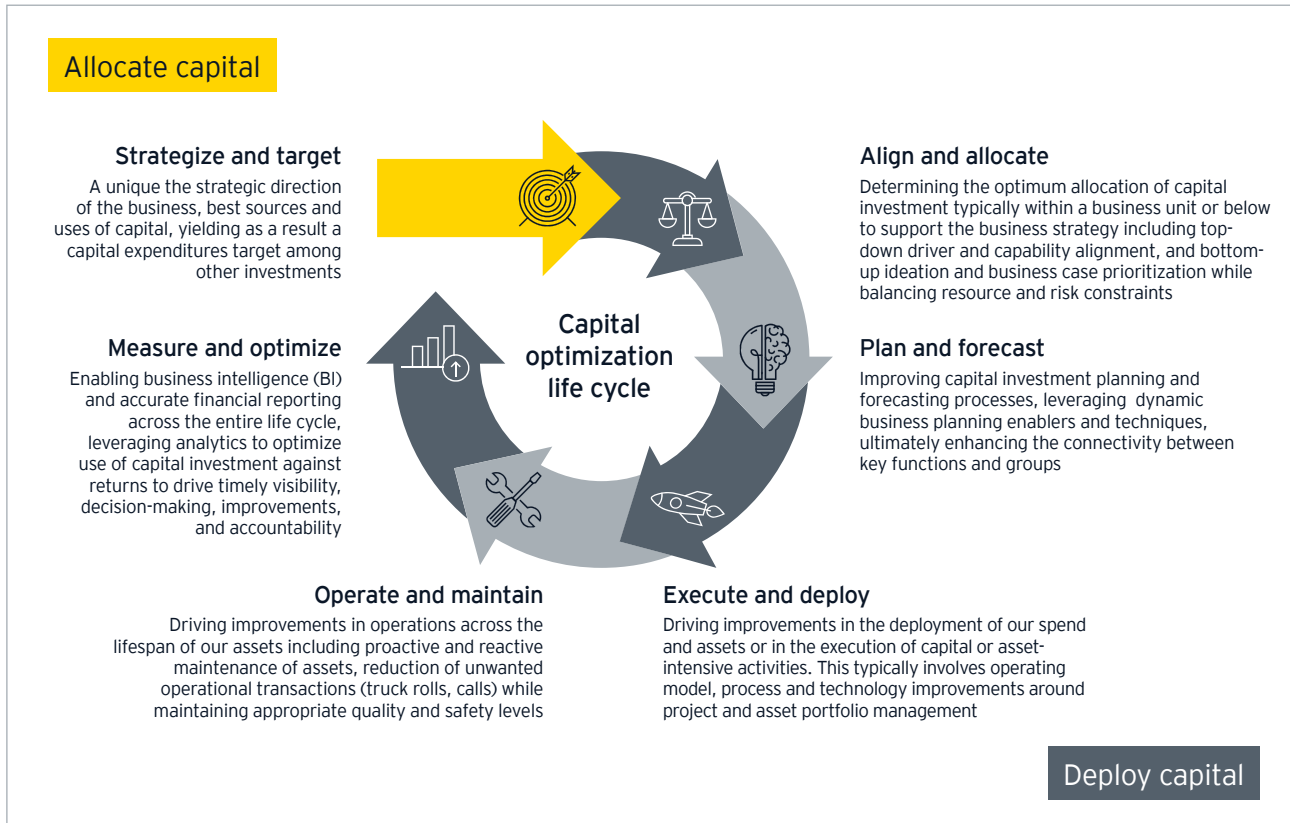
Worldwide, weighted toward North America, Europe and key Asian markets

COMPANY SIZE

Annual company revenue

US\$250m–more than US\$5b

Capital optimization life cycle



Defining leaders and laggards:

Respondents were presented with a scenario for each step of the capital life cycle and asked to select their level of maturity against each:

- ▶ Strategize and target
- ▶ Align and allocate
- ▶ Plan and forecast
- ▶ Execute and deploy
- ▶ Operate and maintain
- ▶ Measure and optimize

Using statistical analytics, two clear segments of respondents were identified:

- ▶ **Leaders:**
those with a propensity for consistent 'and' or 'or' enterprise-wide use of advanced tools, techniques and processes
- ▶ **Laggards:**
those with more nascent capabilities

Respondents were presented with a scenario and asked to select their level of maturity for each step of the capital life cycle.

Their greater maturity gives leaders more confidence in their post-pandemic recovery. Eighty-nine percent of leaders are optimistic about their prospects for growth compared with only 59% of laggards. As recovery gains momentum 87% of leaders and 69% of laggards believe the success of their own recovery will depend on maintaining their levels of capital investment.

87% of TMT leaders believe the success of their own recovery depends on maintaining levels of capital investment.

Comparing these metrics with the EY Global Capital Allocation survey, TMT appears to have a more structured planning process suggesting more maturity across the end-to-end capital life cycle.

The challenge is that too many TMT companies struggle to hit their capital investment objectives. Sixty three percent admit they fail to achieve the kind of returns that were forecast and planned for. Pinpointing a single reason is not easy, instead it reflects shortcomings throughout the capital life cycle. For example, 66% of all TMT companies agree that the costs of their capital programs escalate and timeframes lapse.

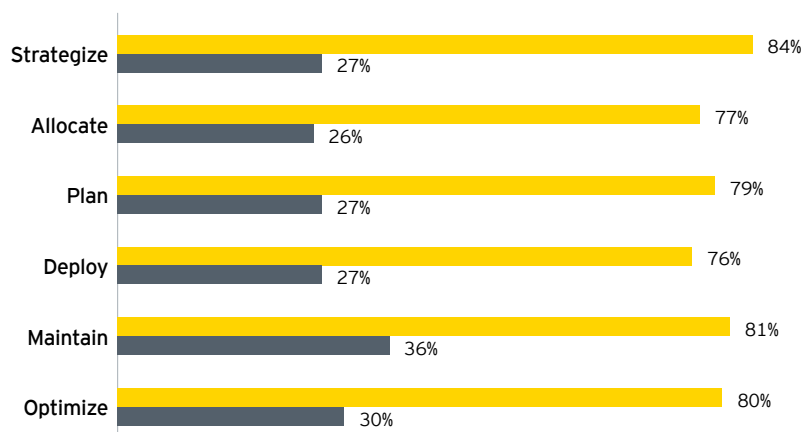
In their defense, predicting where to place investment bets, is not easy for TMT executives. In many ways, they are not the masters of their own destiny. This is an industry characterized by continuous disruption. At one extreme, there are exceptional events and few are bigger

Figure 1

Leaders vs. laggards

Leaders
Laggards

% of respondents that are mature in each step of the capital optimization life cycle



than a global pandemic. It catalyzed demand for TMT services, impacted supply chains and irrevocably changed every aspect of consumers digital life – work, retail, education, entertainment and more besides. Such events are rare although not unprecedented.

More regular occurrences, for example, changes in government and regulatory policy pivots, are easier to predict but equally hard to second-guess. Take something with mid to long term horizons such as the roll out of new technology standards, for example, the ebb and flow of 3G, 4G, 5G with 6G on the horizon. Knowing when to scale capital investment up or down, means anticipating the arrival of a new standard, understanding what spectrum will be available, when and in which markets and placing bets accordingly. Within technology companies, compressed product cycles put pressure on long range planning and reinforce the need for capital agility.

When it comes to government regulation, governmental policy has a significant impact on the future state landscape across TMT. Governments are continuing to invest heavily in closing the digital divide, with impacts to telecommunication and technology companies. Resiliency of communication and data infrastructure will continue to influence the c-suite capital agenda and have trickle down effects to operations. Decisions about capital investment need to be a balance of art and science, with an eye on agility.

Get it wrong and TMT companies risk investing in areas without a clear business case, potentially wasting spend or inversely underinvesting and losing competitive edge. One cable executive spoke about the importance of matching investment levels to the competitive landscape. Over invest today and capabilities could far exceed anything the competition might offer but it could also undermine the optionality for a second wave of investment once competitors catch-up.

How do TMT companies ensure profitable returns? The answer is to be more adaptive. Embedding agility and transparency into the way they allocate and deploy capital enables companies to flex investments to shifting market dynamics. The pandemic, which was a wakeup call, has made agility an even greater priority. Eighty seven percent of leaders now see agility as more important, as do a similarly high number of laggards (78%). Not only does a more adaptive approach provide greater predictability about returns but it also results in more effective and efficient use of capital. Being more adaptive is a big opportunity in TMT. Thirty-three percent of executives identify their capital investment processes are too rigid and the bigger the company the more inflexible processes are likely to be. Those with revenue in excess of US\$5 billion are twice as likely to have constraining processes than smaller companies, those with revenue between US\$250-500 million.

By contrasting the TMT industry's more mature leaders against its laggards reveals how companies can embed agility to be more adaptive. Three areas where leaders excel:

- ▶ Trusted data, intelligent analytics
- ▶ Right talent, right skills
- ▶ Active governance, clear communications

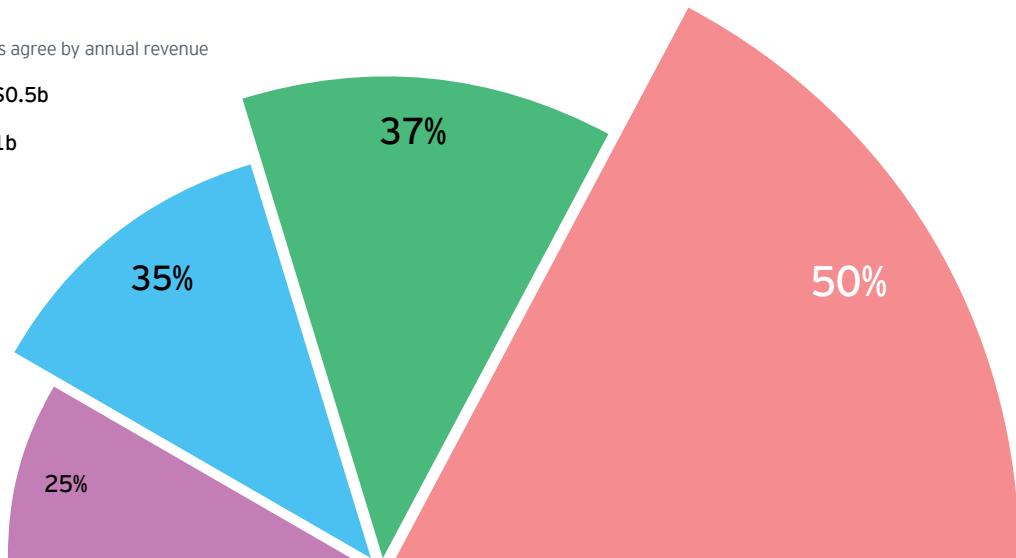
Figure 2

Scale as a barrier to agility

Q. Our Capital investment approach is too rigid and does not flex in real time to changing market and business strategy needs

% of respondents agree by annual revenue

- \$0.25b-\$0.5b
- \$0.5b-\$1b
- \$1b-\$5b
- \$5b+



Trusted data, intelligent analytics

Matching data driven insights with advanced analytics delivers greater transparency, efficiency and predictability into capital investments.

70% An astonishing admission: almost three quarters of laggards struggle to demonstrate the value their capital investments bring to the business!



It is an astonishing admission but almost three quarters of laggards, (70%) appreciably higher than the 58% of leaders, struggle to demonstrate the value their capital investments bring to the business. They are unable to prove the efficacy of what their spending.

There are many reasons to explain the inability to bring transparency but at the core is the absence of supporting data or an inability to access and analyze it. To underscore the point 42% of laggards versus just 29% of leaders state they are unable to measure the KPIs of their investments.

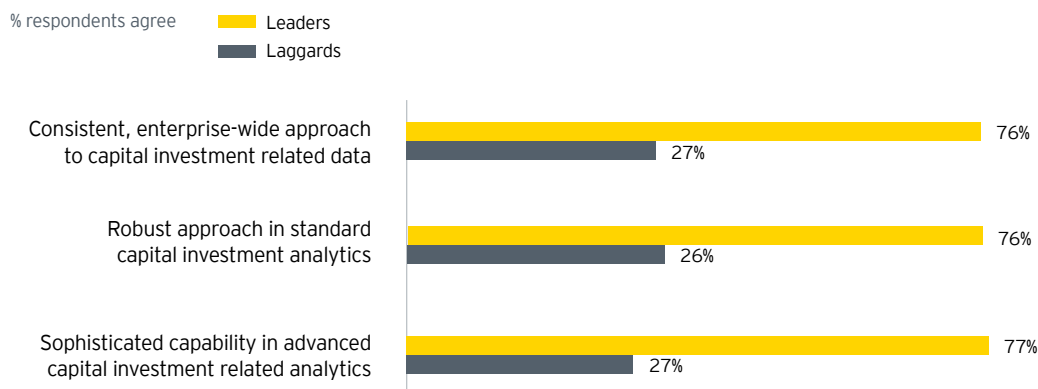
This is crucial. Companies that do not have transparency into their capital process are likely incurring spend on projects and assets that fail to deliver meaningful returns or they leave valuable capital idling in "bucket accounts." For example,

one cable operator, which had allocated hundreds of millions of spend to extend its network to pass more homes, modelled the investment at a cost per household. As a consequence of an imperfect data strategy they were not tracking KPIs effectively. It took over six months before they identified an overspend of 50-60% and a further four to five months to bring the spend down to a more manageable 20% above their initial forecasts. It goes without saying that identifying the issue sooner would translate into real cash upside. An agile enterprise knows what data to track, does so frequently and adapts accordingly.

The utilization of data is an area where leaders stand out from laggards. Divergence between the two segments begins on seemingly fundamental issues, referred to earlier as housekeeping. Seventy-

Figure 3

The power of data and analytics



six percent of leaders invested time and resources and have created consistent data taxonomies, which they employ across their enterprise. This contrasts with less than half as many laggards (33%), which lack this fundamental.

The reasons for a weak data strategy are varied but often include legacy tools that are no-longer fit for purpose, insufficient skills or a culture that does not encourage data sharing. It is a challenge that will be exacerbated by the proliferation of IoT and the subsequent explosion in volumes, sources and complexity of data.

A TMT company advanced its data strategy by connecting data across critical parts of their enterprise including the supply chain, engineering, construction and linking everything back to the finance system. In doing so, they had near real-time access to data at the right level of granularity to be able to adapt in weeks and not months, saving

tens of millions of dollars each year. Crucially they set a foundation for more dynamic and impactful business planning at a regular and frequent cadence. This is illustrative. It highlights how successful companies recognize that an effective data strategy is ultimately a building block to greater decision-making.

Trusted data is a prerequisite to intelligent analytics and the roll-out of automation. The divergence between leaders and laggards around data maturity is therefore reflected in their deployment of even basic analytics. Seventy-six percent of leaders use standardized analytics to aid reporting and decision making, compared to just 34% of laggards. When it comes to more advanced analytics such as predictive analysis and simulation modelling, where more meaningful improvements become viable, these are currently deployed by 77% of leaders compared to just 30% of laggards.



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Companies that do not have transparency into their capital process are likely incurring spend on projects and assets that fail to deliver meaningful returns or they leave valuable capital idling.

Ludvic Baquié

Capital Operations and Innovation Suite
Solution Architect

Right talent, right skills

Successful capital investment is not only about tools and processes but also having the talent and skillsets to optimize.

Among TMT executives, 89% of leaders believe they will derive a competitive advantage from their ability to maintain a highly skilled workforce to manage capital projects. This compares to just 67% of laggards.

Today's reality is that skills needs are evolving rapidly in TMT. More digitized, cloud-based, artificial intelligence and then (AI) technologies are creating a need for reskilling and an imperative to attract the right talent. In TMT, edge cloud capabilities require ever more software and AI skillsets compared to traditional communications network engineers. Reaping returns on capital investments is not simply about tools, technologies and processes but critically about the complementary, human components and skills. Put simply, as TMT

Tech enabled by talent

#1

Barrier to the adoption of AI analytics is the lack of AI skillsets

executives identified, the biggest barrier to the adoption of AI analytics is a workforce with the AI skillsets to take advantage.



Figure 4

Investing in talent



An adaptive organization will deploy resources and capabilities against shifting priorities. This includes talent and skillsets and they do this in different ways; upskilling staff, redeploying existing teams, hiring new skills or rolling-out technology solutions. Most likely it will be some combination of all the above but simply hiring to add volume is almost always not the answer. Neither is it unusual that when companies do roll-out new technologies they do so without sufficient training to fully utilize them, with consequent waste and inefficiencies.

The reality is that TMT companies need to act. For them, the role of talent in capital projects is changing. The use of remote monitoring and automated response shifts the workforce from the field to a virtualized environment. Construction workers are required to leverage more mobile

capabilities to ensure collaboration with centralized functions and experts, as well as enable more complex electronics at the edge of the network. Drones, with embedded machine learning can assess in-field assets more cheaply and more accurately than engineers. Eighty-two percent of TMT executives believe the pandemic has accelerated the virtualization of the workforce, slightly higher in telecoms (87%) and slightly lower in media and entertainment (78%) but the trend is clear.

Predictably, the greater adoption of technology solutions means 79% of leaders expect to see less of their staff in the field in the future compared with 57% of laggards. It means the evolution of skillsets is a priority today, with an emphasis on AI, analytics and remote working.

Pivoting the workforce to use technologies to be more efficient and effective is not a simple task. The majority of TMT companies appreciate the challenge they face. Two-thirds (66%) of TMT companies believe it is difficult to find the necessary skillsets within their organization today. To accelerate reskilling and create an adaptive workforce, industry leaders are relying more on technology to speed up learning and make apprenticeship more digitized (virtual collaboration and mixed reality). Where diagnostic tools and technology-assisted automations can help technicians perform the work that a skilled engineer would have otherwise performed in the past, or where intelligent systems

can perform quality control of tasks instead of a human inspector, the right technology enablers complementing the right talent will help bring the best out of companies' workforce.

Eighty-seven percent of leaders plan to make significant investments in reskilling their talent. In contrast, laggards, where the investment imperative is arguably greater, only 68% see the need to make significant investments in raising the skillsets and capabilities of their employees.



Active governance, clear communications

Best practice management of capital throughout the investment life cycle, requires active input from across the business, built on clear and transparent communication.



A lot of TMT companies are highly capital-intensive. For them capital TMT is a highly capital investment and operations is crucial in maintaining competitive advantage and yet 82% of TMT companies claim it is unclear who is accountable for the performance of capital investment projects. It seems a staggering absence of clear governance for such a large and important bucket of spend. This is one area where leaders and laggards are almost identically matched, although there is significant variation in markets. For example, contrasting China, where 96% of companies have no clarity on accountability with Japan, where the number is much lower (64%). Markets such as the US (88%) and UK (83%) hover just above average.

Lack of accountability

82%

of TMT companies claim it is unclear who is accountable for capital investment projects.

Governance is a concept that means different things in different organizations. It is often perceived as a set of rigid rules used to manage projects from above. However, for adaptive, digital enterprises, governance is much more. In the first instance, it is a framework that acts as a set of guiderails ensuring decisions are made in a consistent, fact-based manner across the organization, while also allowing

projects owners to exercise initiative and “local” control. Governance is also active, not a one-time set of decisions but rather a process of monitoring and intervention as needed. Those, who are accountable stay on top of the capital investment and adapt and adjust it. The absence of clear accountability suggests this type of fact-based but adaptive governance is an industrywide challenge.

TMT leadership roles require a broader spectrum of understanding of the inner complexities of the business, which is pushing some companies towards rotational leadership programs. They want their decision-makers to understand the full capital life cycle not just from a financial standpoint.

Once again, getting it right brings tangible outcomes. Working closely with a telecom company on their program portfolio management, the importance of end-to-end visibility and management from planning to execution, became apparent. By actively looking at and prioritizing a portfolio of 2,000 projects, which accounted for around \$400 million of spend, it was possible to increase productivity by 30%.

Integral to active governance is transparent communication, particularly between functions at the center, such as finance and strategy and those in operations, whether it be at headquarters or “in the field.” Asked to select from a list of priorities that would enhance effective communication on capital projects, respondent highlighted strong, top-down connectivity and clear upward communication of performance.

In at least one instance we have seen TMT companies fail multiple times to rollout new products, in large part due to the lack of leadership alignment and expectations, as well as failed training and buy-in from the field workforce.

In contrast, one leader in the industry was able to increase predictability and on-time delivery by up to 20% for large capital investments by having a strong governance and feedback loop enabled by technology between field operations functions and headquarter planning functions at each step of the life cycle.

Across the board, TMT companies are focusing on end-to-end solutions, rather than point products and services, putting an emphasis on the need to break down the silos (e.g., between product, support, legal/contractual, infrastructure and finance) and deploy active governance.

A consistent flow of information breaks down silos, identifies adjacencies and enhances overall transparency and consistency in the decision-making process. As a result, the organization can continually improve returns on capital investments.

For example, the tax department can help ensure that simple changes in tax policy, which could profoundly impact on the performance of capital investments, can be fed into the process. Transparent communication, can relay changes as efficiently as possible, avoiding decision lag and sub-optimal returns. As the list of capital program KPIs expands, to include topics such as Environmental, Social and Governance (ESG), transparent communication will enable more holistic investments that draw on wider inputs and deliver a more balanced set of objectives.

TMT companies, depending on their subsector, have unique ESG considerations that will drive change across the industry in terms of capital investments. For example, semi-conductor companies are more conscious about water and rare minerals consumptions during production and platform companies are being scrutinized on the way they manage and support their employees (i.e. contingent workers). From a governance perspective, finding the right balance between stakeholders and shareholders will continue to be a key to success for many TMT companies.

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A consistent flow of information breaks down silos, identifies adjacencies and enhances overall transparency and consistency in the decision-making process.

Daniel Theander

Capital Operations and Innovation Suite Solution Owner
and US-Central Region TMT Consulting Leader

Another critical dimension in active governance and clear communication and one that is often overlooked, is the feedback loop. Learning from their experiences and those of their peers helps improve the effectiveness of future capital investments. This is another area where leaders are distinctive. Leaders are more than twice as likely to

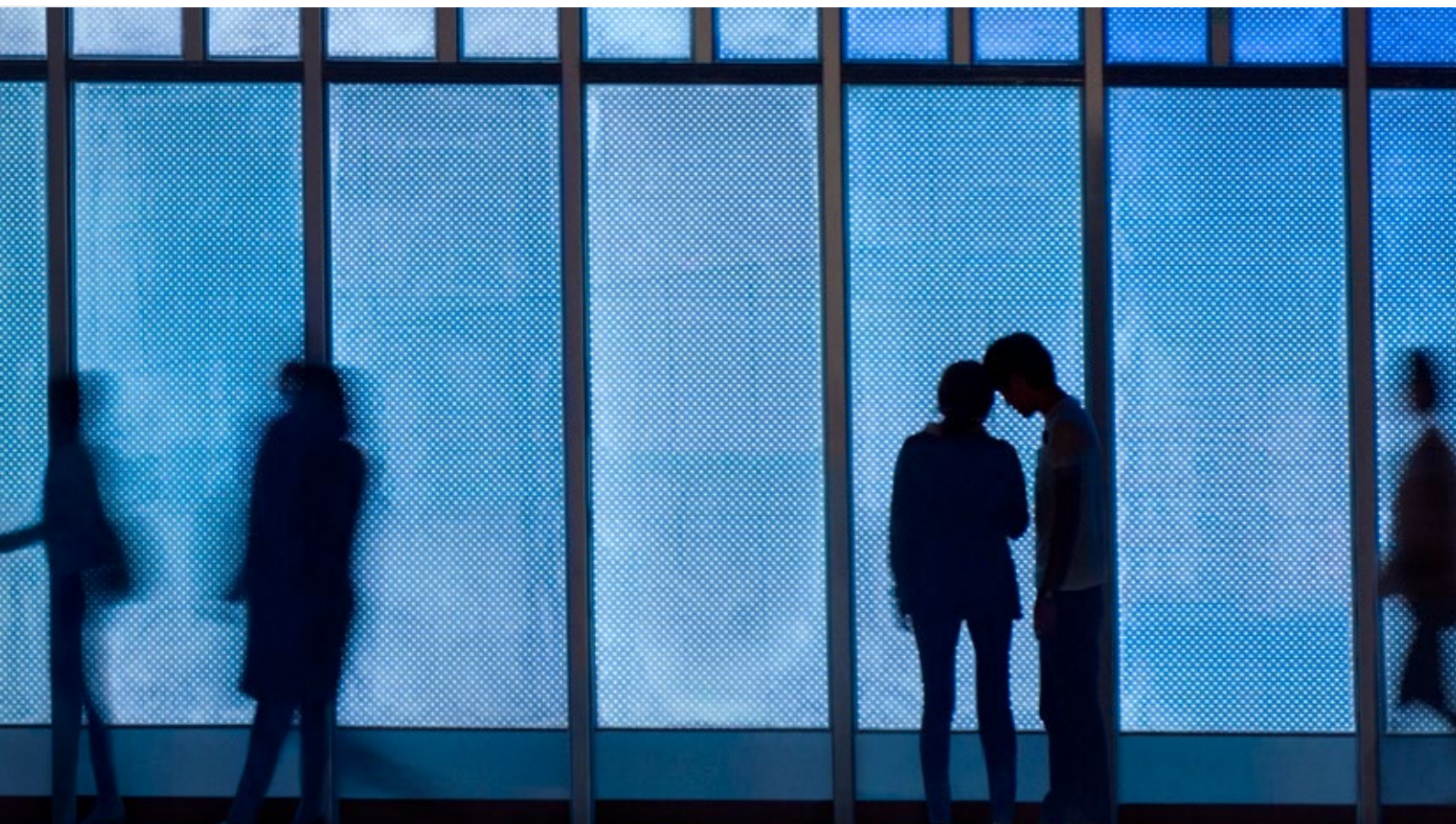
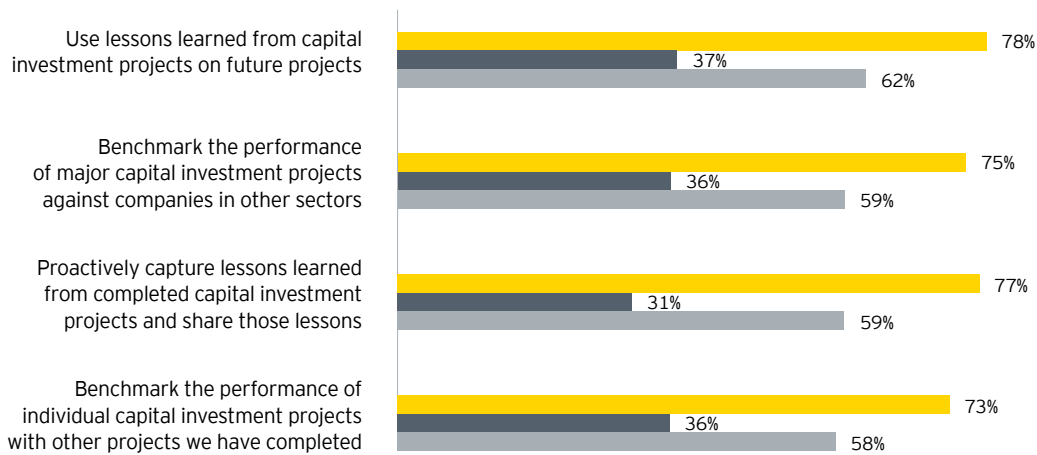
proactively learn the lessons from the performance of their capital investments and to feed that back into future behaviors. Best practices would suggest both monitoring projects as they are being executed, or in-flight, as well as after a project's conclusion, or post-mortem.

Figure 5

The feedback loop

% respondents agree

Leaders Laggards Average



A call to action

TMT leaders demonstrate clear, interconnected approaches that drive the success of their capital investments.

TMT companies are on a treadmill of continuous disruption, innovation and reinvention. More adaptive organizations are more effective at realizing returns on their capital investments. They have more agile and transparent processes for allocation and deployment of capital. To become adaptive requires strong foundations underpinning the use of advanced technologies, processes and capabilities.

Make data and analytics the backbone of capital investment from allocation to optimization:

- ▶ A coherent and reliable data strategy is often undervalued but it is a prerequisite for the roll-out of next level tools including analytics and leveraging intelligent solutions.
- ▶ Siloes need to be broken down. A successful and adaptive capital investment framework has a culture and the processes for coordination and buy-in across the organization.
- ▶ Success (and failure) are measurable. Transparency and the ability to adapt and course correct, rely on consistent data, greater automation and an agile approach to capital programs.

Prioritize talent and skills a prerequisite for success. They are integral to executing throughout the capital investment life cycle but require significant and continuous investment:

- ▶ It is critical that TMT companies understand how their workforce is evolving and the roll that technology plays in the evolution of capital projects.
- ▶ As a consequence, investment in talent and skills should focus on the utilization of new technologies to optimize their effectiveness.

Engage with the organization at every step of the capital investment life cycle. Ensuring that returns on capital investment meet or exceed targets, requires active input and clear communications:

- ▶ Throughout the organization, from the very top to all levels underneath, a capital program is more efficient and effective if siloes are broken down and adjacencies identified. Strong processes that include clear communication enhance transparency and surface opportunities.
- ▶ Leadership and active governance are an important part of ensuring performance, course correcting as necessary and learning the lessons from experience.

Capital investment is so integral to the competitive advantage of TMT companies. Their ability to execute investment programs in a dynamic and fast changing industry depends on how successfully they set-up their business as an adaptive digital enterprise.



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