



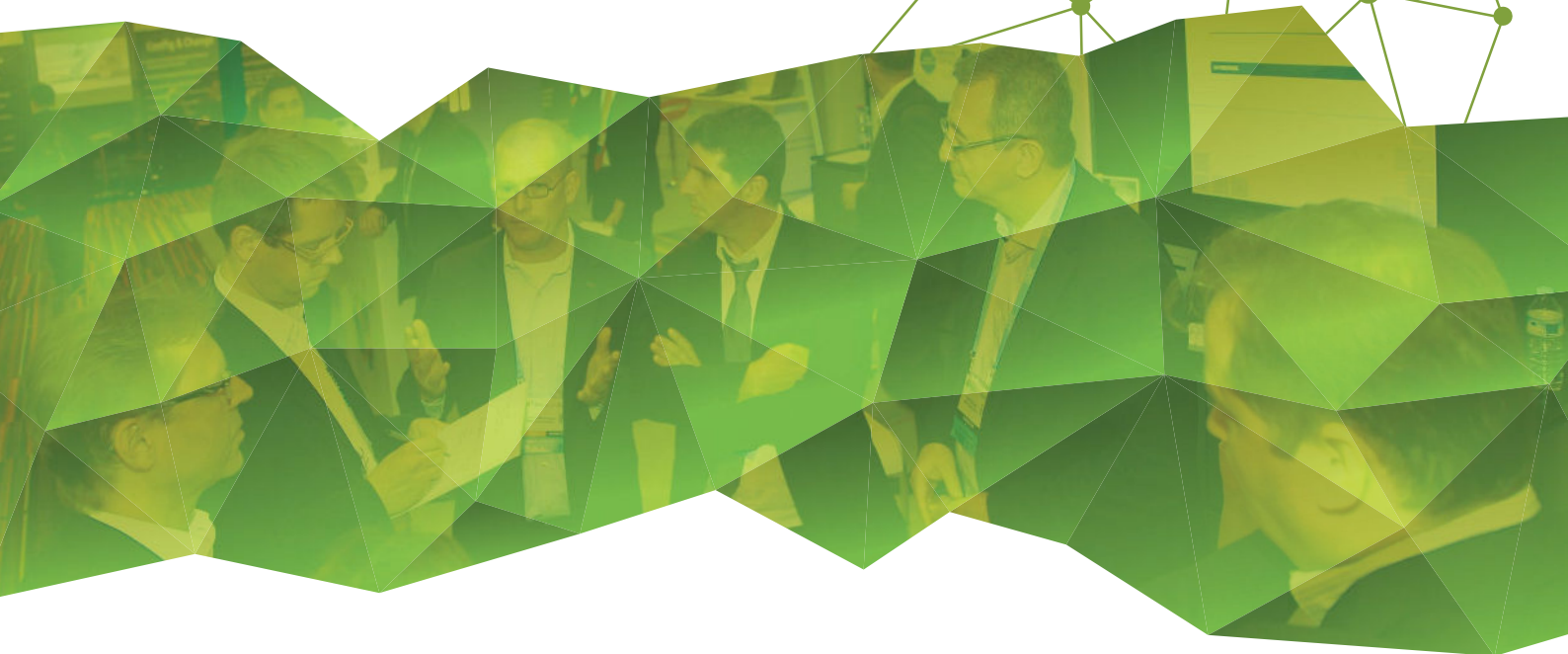
# Digital Maturity Model (DMM):

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A blueprint for digital transformation

**TM FORUM WHITE PAPER**

May 2017 | [www.tmforum.org](http://www.tmforum.org)



# Digital Transformation Tracker

TM Forum is pleased to announce the launch of a new semi-annual industry survey, an essential tool that will track sentiment and real-life progress of CSPs' digital transformation.

**Have your say! Take the survey now!**

Win an Apple Watch



Everyone who completes the survey will be entered into a prize draw to win an Apple Watch – the survey is open to service providers and their technology partners and suppliers.\*

Service providers  
take the survey



Technology partners  
& suppliers, take the survey



\* The Prize Draw will take place in early July 2017 after the survey closes on June 30, 2017.

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## Why is digital transformation necessary?

“It’s not that I’m so smart. It’s just that I stay with problems longer.” ~ Albert Einstein

Change is good, right? But building and executing a successful strategy for digital transformation is challenging and takes time. Transformation impacts the whole business, not only questioning existing ways of managing and structuring it, but also challenging everyone in the organization to step out of their comfort zones, change their mind-sets and broaden their horizons.

Part of the conundrum around choosing the right digital transformation path is that it must be driven by an organization’s business and financial objectives, but must also take account of the increasingly digital ways of doing business with customers, including partnering with other verticals.

So, what are the business and financial objectives that digital transformation can help CSPs achieve? We have identified three interconnecting objectives:



operational excellence,



extended customer lifetime value, and



new business.

### Operational excellence

Delivering operational efficiencies is fundamental to any transformation. Large, clunky and disjointed technology stacks with modular operating structures have left CSPs with little flexibility and agility to deploy enterprise-wide or global digital businesses.

Efforts to launch seamless digital experiences for customers are often blocked by a lack of integration between BSS and OSS systems. By automating front-facing business activities (customers, partners etc.), back-end processes and resources, CSPs can provide better customer experience at lower cost.

For every percentage-point reduction in mobile churn that results from improved customer experience, typically a CSP with 10 million mobile subscribers can

earn an extra \$100 million in annual revenues. Cost savings generally achieved through automation and other efficiency gains are also significant. Anecdotally, reducing OpEx by 20-30 percent is a realistic target (although a proportion of this may comprise costs which are being reallocated from CapEx to OpEx).

### Customer lifetime value

In addition to developing new business models and rolling out new services, CSPs can boost their existing business and extend their customers’ lifetime value. This involves creating more personalized propositions and new digital services (cloud, digital payments, IoT, media etc.) to wrap around traditional anchor services (voice, messaging and broadband access).

The degree to which this can be achieved will depend on how well CSPs reshape their operations so they can bundle connectivity and digital services in an integrated customer experience. It also requires CSPs to bring together their services, touchpoints and customer engagements into customers’ preferred digital channels.

CSPs will derive higher customer lifetime value through such an approach, driving greater customer loyalty (and lower churn) and defending revenues and profit margins for their anchor services.

### New business

CSPs can expand into adjacent markets and develop new business models by onboarding multiple partners to co-create new, collaborative, platform-based services using open APIs. Successful expansion into the B2B market could allow consumer-focused mobile operators to generate up to 40 percent of their revenues from business customers, bridging the gap between them and operators who already serve that sector.

CSPs who are more mature in the enterprise market could advance by capturing a share of an enterprise cloud services market. As it is forecast by market research firm Ovum to be worth \$174 billion in

2020, this is a major incentive. Others aspire for B2C diversification: Orange is moving into retail banking while AT&T has set up a smart-home business, AT&T Digital Life.

Research published by the World Economic Forum at the start of this year as part of its Digital Transformation Initiative indicates that “Beyond the Pipe” services could represent a \$650 billion opportunity for CSPs. Delta Partners, meanwhile predicts that the total proportion of CSP revenues accounted for by digital services will rise from 5 percent in 2016 to 24 percent in 2020.

### A winning strategy

Time is not on CSPs’ side. Core communications and connectivity revenues are stagnating. Certainly, converged, multi-play services including video are providing an anchor for some, but multi-play is not growing the total amount of revenue available, and nor is it an option for every CSP.

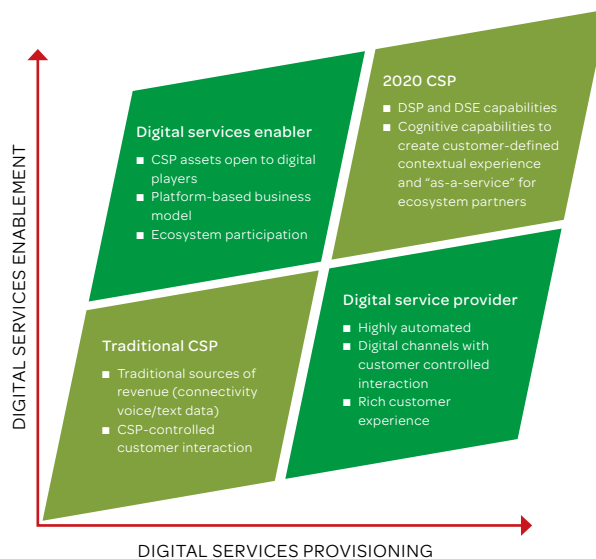
While CSPs are contemplating their futures, digital natives are rolling out services that attract mass-market adoption in months, destroying traditional business models. Disintermediation and the emergence of the one-stop-shop app and app platform is a serious threat. Take Instagram in Thailand, for example, which allows customers to do everything within that app, from social recommendation to browsing products, ordering, paying, tracking, delivery and providing feedback.

So, transformation is becoming a matter of urgency, but the success of digital transformation programs is far from guaranteed. An estimated 60-70 percent of all projects fail, and the telecoms industry has a poor track record with large-scale transformation efforts.

What must change for CSPs to improve their chances of success?

We must move away from the sporadic, siloed approach that has characterized so many transformation initiatives. There should be short-, medium- and long-term strategies in any transformation program, plus a well-communicated vision accompanied by a financial roadmap for tangible, possibly shared, projected gains. Certainly, this will require investment. Knowing which areas

**FIGURE 1: WHERE ARE YOU IN YOUR DIGITAL JOURNEY?**



Source: TM Forum, 2017

should be prioritized, where investment can be a shared cost and how that helps to forge possible partnerships will help the business fulfill its digital strategy and objectives.

### Getting started

The first step is to plan the digital journey at a high level, deciding what the business should be in the future. We call this becoming a 2020 CSP (see Figure 1). We plot CSPs’ digital journey along two axes.

The X (horizontal) axis shows the changes a CSP makes to become a highly-automated, low-cost service provider delivering high-quality customer experiences through online and offline channels. On the Y (vertical) axis the CSP recognizes the growing importance of ecosystem platforms and new market opportunities.

CSPs must take a snapshot of current capabilities across the whole organization when deciding what is required to become a digital services provider or a digital services enabler – that is, the extent to which the traditional CSP needs to take transformational steps. This will identify gaps in capabilities, show wide discrepancies between business functions and indicate where investment priorities should be. CSPs whose 2020 vision involves expanding into

adjacent markets – for example, becoming full ICT service providers – will need to acquire new digital skills and capabilities to compete with cloud service providers. A digital and personalized customer experience – enabled by data analytics, and automated through machine-learning – is a pre-requisite to provisioning any digital service.

We have used “digital service enablement” to describe more radical changes to business models, such as embracing platform-based approaches inherent in digital ecosystems. Collaborating with other service providers, by building platform and ecosystem capabilities using open APIs, is integral to this vision.

## Introducing the DMM

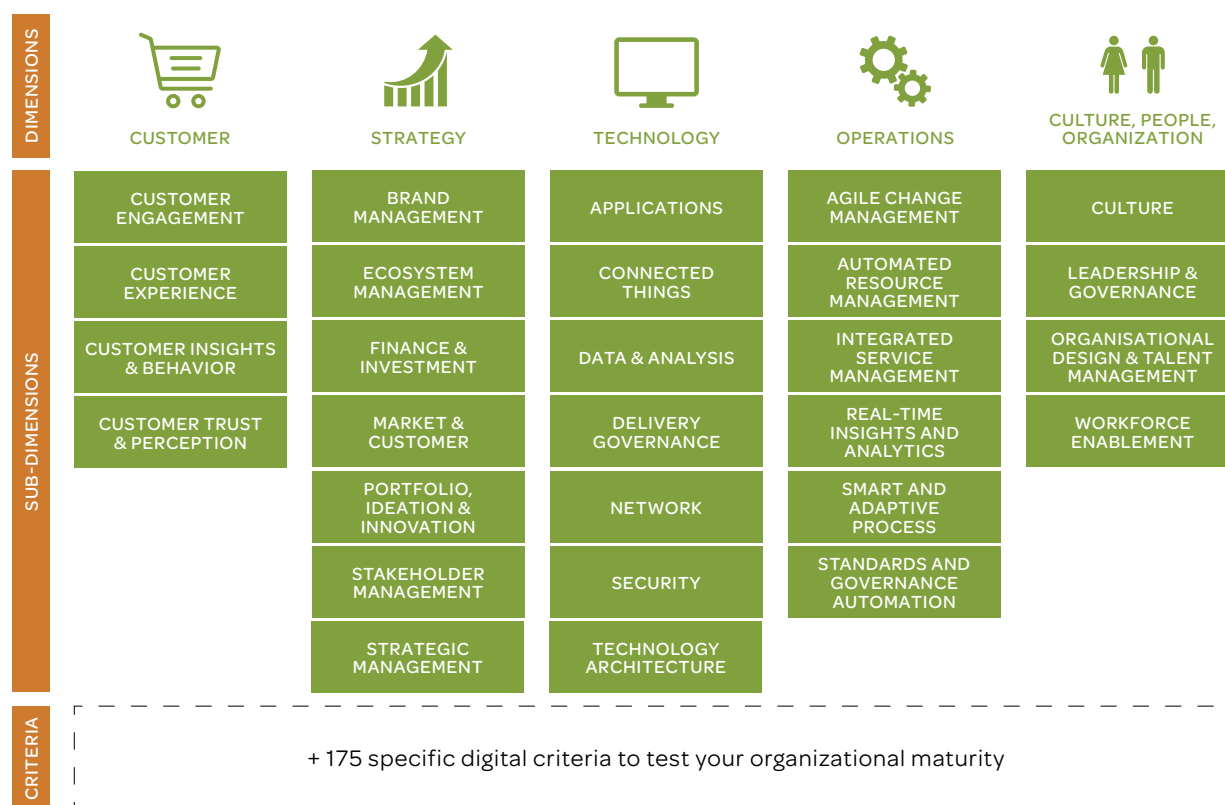
TM Forum’s Digital Maturity Model (DMM) offers a practical approach to transformation. It has been crafted over the course of many months by industry thought-leaders. CSPs, technology companies, global advisory firms and others have pooled their knowledge

and experience to create a model that can be used to provide a snapshot of the business, identify possible investment priorities and manage the journey itself, step-by-step. In brief, the model is split into five categories, or dimensions, each of which contain sub-dimensions representing different aspects of a CSP’s digital maturity (see Figure 2).

By asking people across the entire organization to assess the company’s maturity in each of these areas, a CSP can identify where it needs to improve and, in some cases, where investment priorities lie. The model has the flexibility to account for differences in operators’ visions, strategies and business imperatives.

Such an approach will help CSPs avoid the pitfalls that sometimes befall transformation programs – namely, siloed, stop-start initiatives. Taking one dimension at a time, for example Technology or Operations, and making it the focus for investment and resources is not recommended.

FIGURE 2: DMM DIMENSIONS AND SUB-DIMENSIONS



Source: TM Forum, 2017



# A transformation model for all shapes and sizes

Not every CSP is moving in the same direction or at the same speed. Some have relatively modest aspirations – to move into multi-play services and embrace video, for example, but essentially remain a traditional CSP. Others are set on complete transformation of their business model and expansion into new digital services.

Whatever the type of service provider, there is a strong case to transform. Revenue from core communications services are slowing dramatically, which means that transforming the cost base is a must. Making incremental savings through squeezing the workforce or suppliers is not enough. Operators also should phase out legacy products, processes and systems.

When it comes to expanding into new digital services, CSPs need to offer a personalized, digital customer experience that leverages data analytics. And they need partnering to build a digital ecosystem.

Starting a digital transformation program can be daunting. There may be scars from previous attempts: In a recent survey for our *Insights Research* report [\*Cloud BSS: The migration\*](#) begins, 27 out of 50 operators said their previous attempts at transformation had failed. The unexpected complexity of legacy IT systems is a leading cause, but many respondents also cited internal friction between departments and poor planning or execution.

The transformation we're talking about this time around is potentially more far-reaching than previous

efforts. It needs strong, direct leadership by the CEO for a process that will impact the whole organization. This process needs to reach far and wide – across all departments and all lines of business and beyond the individual CSP or group headquarters – because no single person or team, has full visibility across the whole business.

## What is a digital maturity model?

In the last couple of years, we have seen the emergence of digital maturity models designed to help organizations to take a holistic approach to transformation. A digital maturity model is effective for a variety of purposes:



Its very creation forces organizations to analyze and properly structure the problem to be addressed.



It facilitates goals and plans, both short and longer term.



It provides a basis to help organizations assess realistically where they are in their transformation programs.

TM Forum has taken the digital maturity model concept and improved on it to make it specific to the telecoms industry because, in many respects, CSPs are different from other enterprises. They are:



highly capital intensive,



rely heavily on legacy technologies,



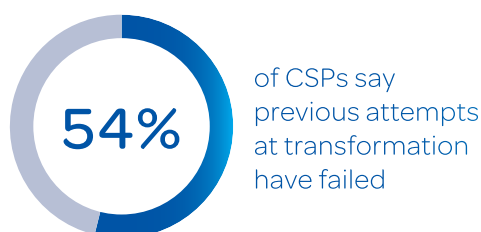
are already in an advanced state of disruption, and



include local, national and international players.

Hence, we need a model that is specific to CSPs, but also takes into account differences between companies in terms of strategy, maturity and the state of their business.

## LEARNING FROM FAILURE



Source: TM Forum, 2017

As mentioned, the Forum's Digital Maturity Model (DMM) has been designed over the course of a year as a collaborative effort between leading CSPs, technology firms, large enterprises, public bodies and global advisory firms. By providing the right set of questions, crowd-sourced from members, rather than every CSP having to figure it out for themselves, operators can embark on their own digital journeys.

The DMM is also a 'living' model just like all the Forum's successful models, and one that continuously evolves. 'Digital maturity' is an aspirational target – something to reach for constantly, that is always changing and improving.

## The five dimensions

As noted in the introduction, we have identified five broad categories, or dimensions, for CSPs to use to assess their digital maturity – Customer, Strategy, Technology, Operations and Culture (see Figure 2 on page XX).

The DMM allows any CSP to choose one of five 'states' to assess its maturity level against 175 criteria in the five dimensions. The maturity level can be qualitative, as shown in the infographic below, or based on a percentage of maturity achieved.

In the next section, we'll look more closely at how to implement TM Forum's DMM.

FIGURE 3: THE FIVE STATES OF DIGITAL MATURITY

RATING PATTERN	
1	<b>Initiating:</b> Discussions are early stage and beginning to be incorporated into some of our business operations
2	<b>Emerging:</b> Discussions are advanced and beginning to be incorporated into all daily operations
3	<b>Performing:</b> Our organization has set clear objectives and formulated a plan that is being followed throughout the company
4	<b>Advancing:</b> Our organization is expanding on our plan and objectives to come up with new and innovative ideas to advance our capabilities in this area
5	<b>Leading:</b> Our organization is considered a thought leader in this area, regularly leads industry discussions on the topic and has mastered this subject matter area

Source: TM Forum, 2017

“Digital maturity’ is an aspirational target – something to reach for constantly that is always changing and improving.”



# Embedding the DMM across the entire organization

Every CSP will have its own ideas about how to use the DMM, but the starting point must always be a vision for the type of service provider an operator wants to become. We suggest a 2020 CSP vision, but some CSPs may be prepared to set longer-term objectives, based on a vision that is five or ten years away.

With DMM, CSPs can also work backwards from their vision, breaking the transformation journey down into digestible, meaningful and quantifiable milestones. This lets them see where they are today in each of the sub-dimensions and plot a course for improving performance within each one. A CSP can be highly ambitious in terms of targeting improvement, or moderately ambitious, or may decide that it is happy where it is and prioritize other areas of the business (see Figure 4).

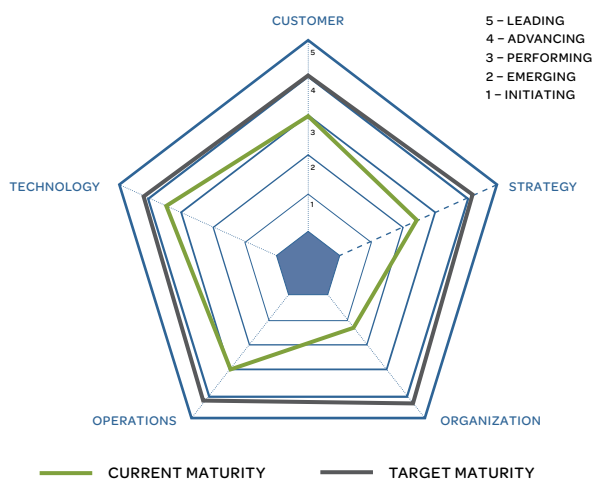
## Rolling out the DMM

There is no single, definitive approach to how a CSP should adopt the DMM but clearly, the more departments, divisions and lines of business are involved, the more weight it will carry and the more successful it is likely to be.

The DMM necessarily must be owned by champions (formal and informal) who have the authority or are empowered to deliver transformation. We recommend creating a center of excellence and appointing a 'cheerleader' from each department. Between 5 and 10 percent of people from each department should participate in the survey for each sub-dimension. Only by bringing together the opinions of people who may see things very differently can an organization confidently assess and address its digital maturity.

The very act of bringing together two or more departments that do not usually collaborate will reveal

**FIGURE 4: TARGETING IMPROVEMENTS USING THE DMM**



Source: TM Forum, 2017

much about the real state of any organization's digital maturity. For example, combining the marketing department and the IT and network teams will lay a good foundation for implementing a DevOps approach to creating services.

It is also worth noting that surveys for maturity model only include senior executives. Many transformation efforts fail because of a split between leadership strategy (where management wants the company to go) and emergent strategy (what the organization is used to doing will continue to do until people understand the need to change).

Only by bringing together the opinions of people who may see things very differently can an organization confidently assess and address its digital maturity.

Sub-dimension scoring

We would expect to see a spectrum of views and scoring for each sub-dimension. A CSP may want to present these as aggregated scores, as Figure 5 shows. This is an illustration of company-wide scores for each sub-dimension. Operators need to set internal targets for improving scores when the DMM is run again, most likely in a year’s time.

Having established the organization’s digital maturity across dimensions, an operator can then decide what targets to set and how to use the tool to assess investment decisions. One operator may choose annual improvement targets across all dimensions and sub-dimensions, while another may decide that, based on its 2020 vision, it does not need to improve in all sub-dimensions. Maybe an operator will set ambitious improvement targets in some areas, but only aim to maintain performance in others.

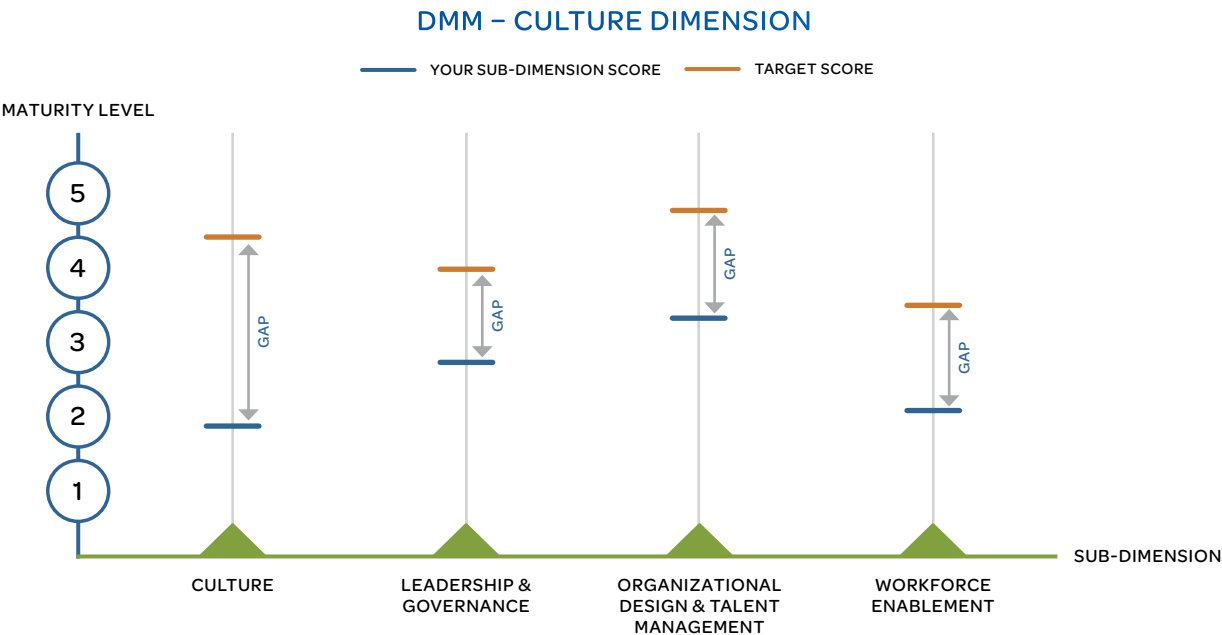
CSPs can reallocate spend as necessary between

different departments and functions to gain maximum benefit where they need it most. They can do this by calculating what percentage of OpEx is allocated to each sub-dimension now, and look at the results from the survey plus their targets for improving various dimensions.

Looking ahead

As CSPs use the DMM and results are returned to TM Forum’s database of digital maturity, we will be able to create a benchmark so that operators can assess their businesses through comparison. Most CSPs already benchmark their operational and financial performance by comparing themselves with operators from other markets similar in size, gross domestic product, competition and market maturity. By allowing a CSP to compare its digital maturity with others – for example national CSPs, global operators, B2B specialists or even internet companies, enterprise cloud service providers or retailers – a CSP could extend its benchmarking approach to include new metrics.

FIGURE 5: MATURITY LEVEL VS. SUB-DIMENSION (ILLUSTRATIVE)



Source: TM Forum, 2017

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## Glossary

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**Traditional communications service provider (CSP)** – a mobile, fixed or multi-play operator that uses legacy (telecommunications) network and IT architectures and technologies, and may or may not have started to expand into ICT services such as cloud and internet of things.

**Digital services provider (DSP)** – a CSP that has successfully undertaken a digital transformation and now has the capabilities to develop new lines of business, new revenues and stronger customer relationships.

**Digital services enabler (DSE)** – a digitally-transformed CSP that builds its own ecosystem by working with third-party technology and service providers and shifting from a command-and-control model to a shared-risk, shared-control and, potentially, shared-revenue approach.

**2020 CSP** – some CSPs have more ambitious aspirations than others in terms of new services and new lines of business. We use the term 2020 CSP to describe CSPs which are undertaking digital transformation, and have made progress in becoming a DSP or a DSE, while accepting that not all will have achieved the same level of digital maturity by 2020.

**Digital maturity model** – a business tool to help enterprises structure and execute an all-encompassing digital transformation program.

For more information about the  
Forum's work on **Digital Maturity  
Model**, including how to get  
involved, please contact us  
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