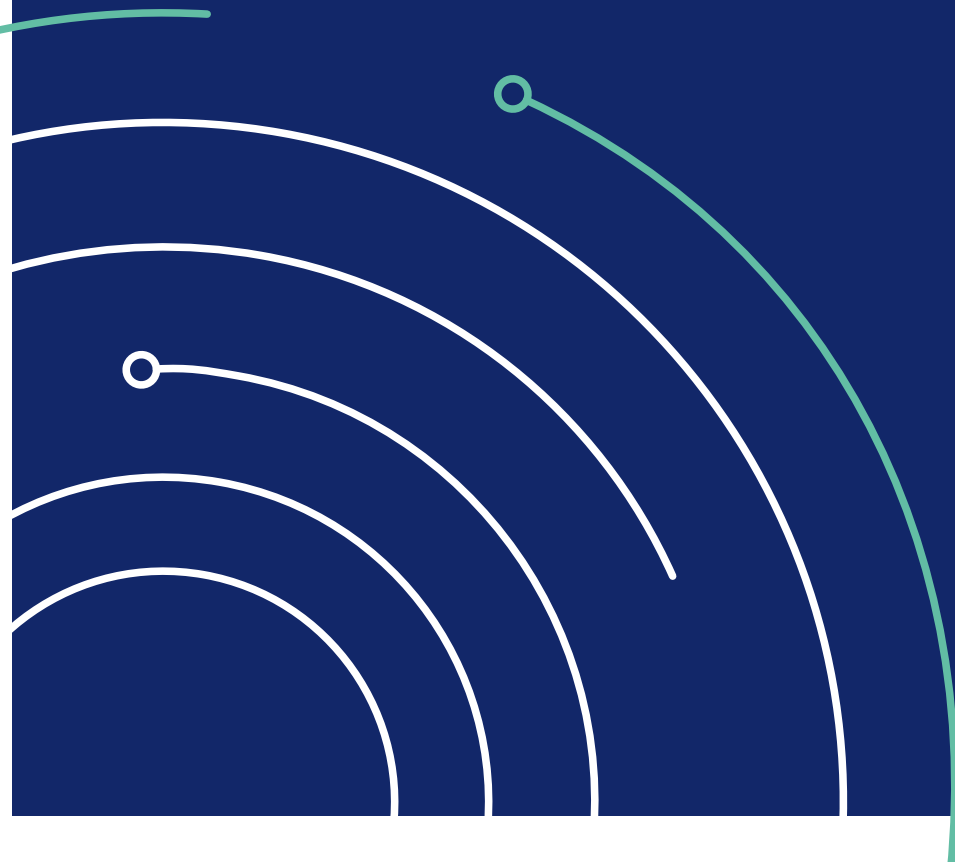


DIGITAL MATURITY STUDY 2021

Contents



Editorial

Dear reader,

Certainly, there is an infinite number of quotes out there on the significance and scope of digitalization. Technological developments and their rapid progress are revolutionizing or even completely replacing existing models and processes. Digitalization transforms not only the way we work, produce, communicate, live, but also how we consume. This has even been accelerated by the global COVID-19 crisis – and especially telecommunications companies feel the increasing digitalization on their networks.

More than ever before, the telecommunications industry is undergoing profound and far-reaching alterations, characterized by completely new competitive structures and fundamental changes in consumer behavior. In the core business of connectivity, new competitors are appearing on the scene, using innovative technologies and business models. At the same time, the demand for high-quality, omnipresent, and secure networking – locally and globally – is on the rise. Highly reliable connectivity is the basis for digital living and working, so it is a crucial factor for the future competitiveness of national economies. The tech-

nological developments in the production of network operators are continuing to gain momentum, forcing telcos to quickly abandon rigid legacy systems and install software-based flexible production mechanisms instead. To master those transformations, increasing efficiency of the core business through smart digitalization and leveraging innovation for new business models is what telcos are striving for.

Each digital transformation is a seismic shift that organizations make to accelerate change. It has an impact on people, processes, systems, and organizations. Given the size, scope and also the time frame of such transformation activities, it is advisable to gain a view of the “as-is” digital maturity level of the organization and to set the aspirational level for the planned changes.

The Digital Maturity Model was co-developed by Detecon and the TM Forum and provides a structured and holistic approach to tackling a digital transformation. We are happy to provide you with the outcomes of our international Digital Maturity Study and to share with you the current digital

maturity level of telcos across four different regions – Asia, Europe, Central Africa and South Africa, Middle East and North Africa.

The content is meant to be used as orientation for decision makers as to where other telco providers stand in terms of digital maturity, and what a possible target level might be. It can also serve decision makers in the telco industry to gain insights into prevailing digital maturity levels in their respective markets, and globally. Starting from here, the study addresses recommendations and the way forward for actions which are capable of paving new courses.

We want to thank every participant in this study very much for their contribution and sincerely hope all readers have an interesting, and most importantly value-adding, read.



Best regards

Björn Menden

Managing Partner & Regional Head
MEA, Detecon International GmbH



Executive summary

Executive summary

The main goal of the study was to assess the status quo of telecommunications companies' digital maturity on a global scale. 30 participating telcos across four regions, Asia, Europe, Central Africa and South Africa (CASA), Middle East and North Africa (MENA) provided answers to a shortened, online questionnaire of the TM Forum Digital Maturity Model (DMM). The questionnaire measures the digital maturity of the organization on a score between one and five across six dimensions and 25 sub-dimensions. Results were subsequently analyzed and evaluated on a global as well as a regional scale.

For telco industry members, the study provides answers to the following questions:

- What is the general status of digital maturity within telco providers?
- What is the digital maturity level of my current organization compared to that of my regional peers?
- Are there significant outliers among the dimensions?
- Are there significant regional differences?



The findings show that most telcos reach an “emerging” level of digital maturity overall, with a tendency towards “performing”. The MENA region scores the highest, Europe comes second, followed by Asia and lastly CASA.

Overall, the participants perform the strongest in the technology dimension. This can be explained by the core business of telcos being of a technological nature and in many cases, digital transformation being steered by the use of

new technology and the respective departments behind them, e.g. IT. On a sub-dimensional level, especially customer trust, strategy management, connectivity & compute and security stood out with high scores.

The organization & culture and the data dimension achieve the lowest score, indicating that organizations are just starting to realize that the digital transformation is steered by the people of the organization, and those people need to be enabled through proper organizational structures and cultural measures. The structured gathering, analysis and value-creation from the masses of data that telcos possess is also still lagging behind, and the vast potential is just starting to be realized. Strongly in line with that, the sub-dimensions customer insight, service design & innovation, talent management and data governance achieved the lowest scores in the study.



Introduction of the TM Forum Digital Maturity Model

Every business, despite its size or industry, faces continuous technological advancement with significant disruptive power that creates great challenges for the organizations. At the same time, opportunities and possibilities arise, with promising technologies such as 5G, AI, cloudification, and big data. To keep up with the competition, particularly global technology companies, organizations find themselves in the difficult situation to decide on where to start their digital transformation journey.

To help organizations navigate through the changing digital environment with ever faster evolving cycles, Detecon has partnered with the TM Forum to develop the first industry-standard Digital Maturity Model (DMM). The Digital Maturity Study is based on this model, which is an assessment tool that captures an organization's current level of digital maturity across six business dimensions. The DMM is structured as follows: there are six core business dimensions, namely, Customer, Strategy, Technology, Operations, Organization & Culture, and Data, which capture an organization holistically. These dimensions are further divided into several sub-dimensions that reflect different facets of a digitally mature organization. On the most detailed level, each sub-dimension is supported by predefined criteria with unique digital maturity stages through which an organization evolves.

Figure 2: The Digital Maturity Model

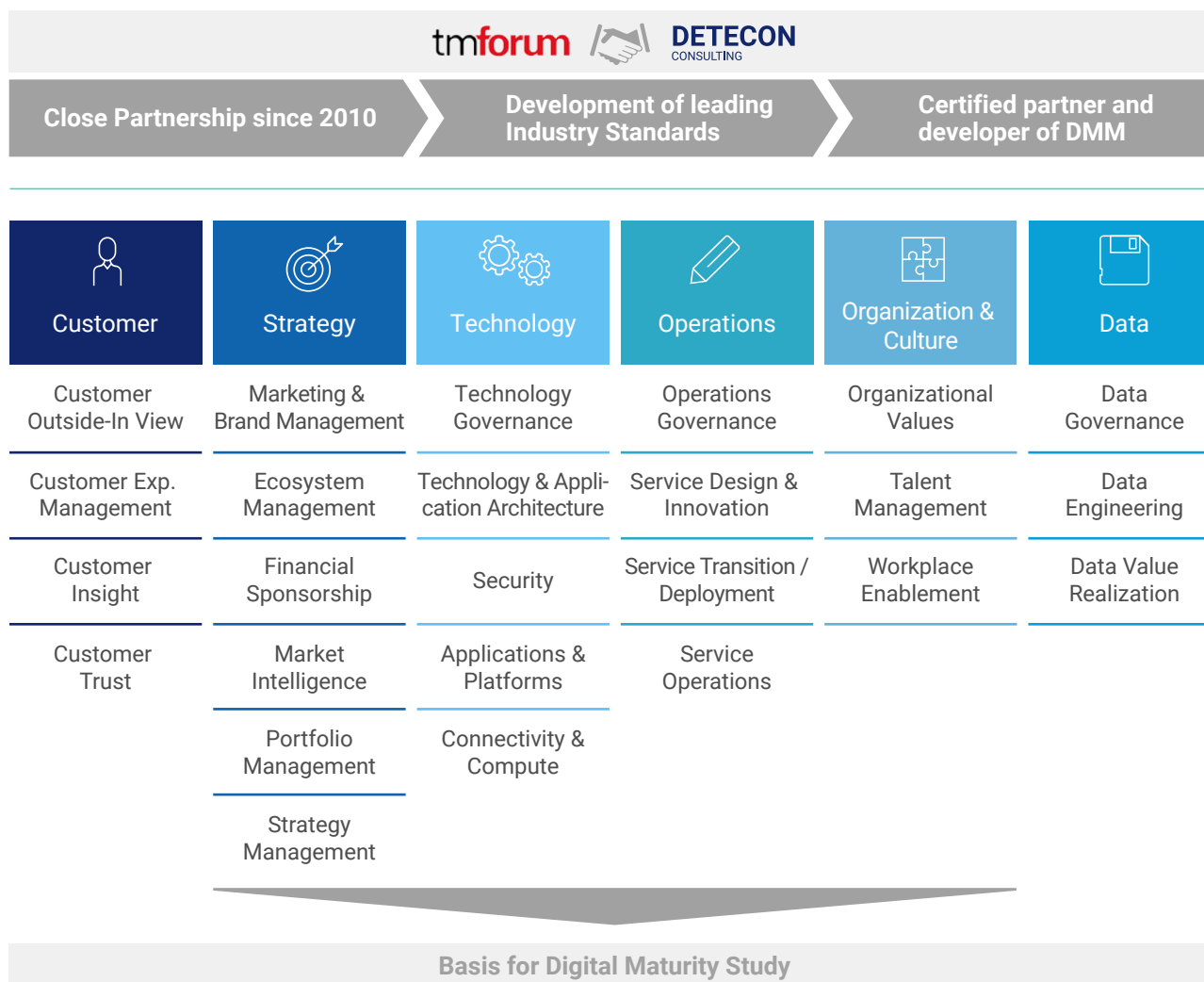
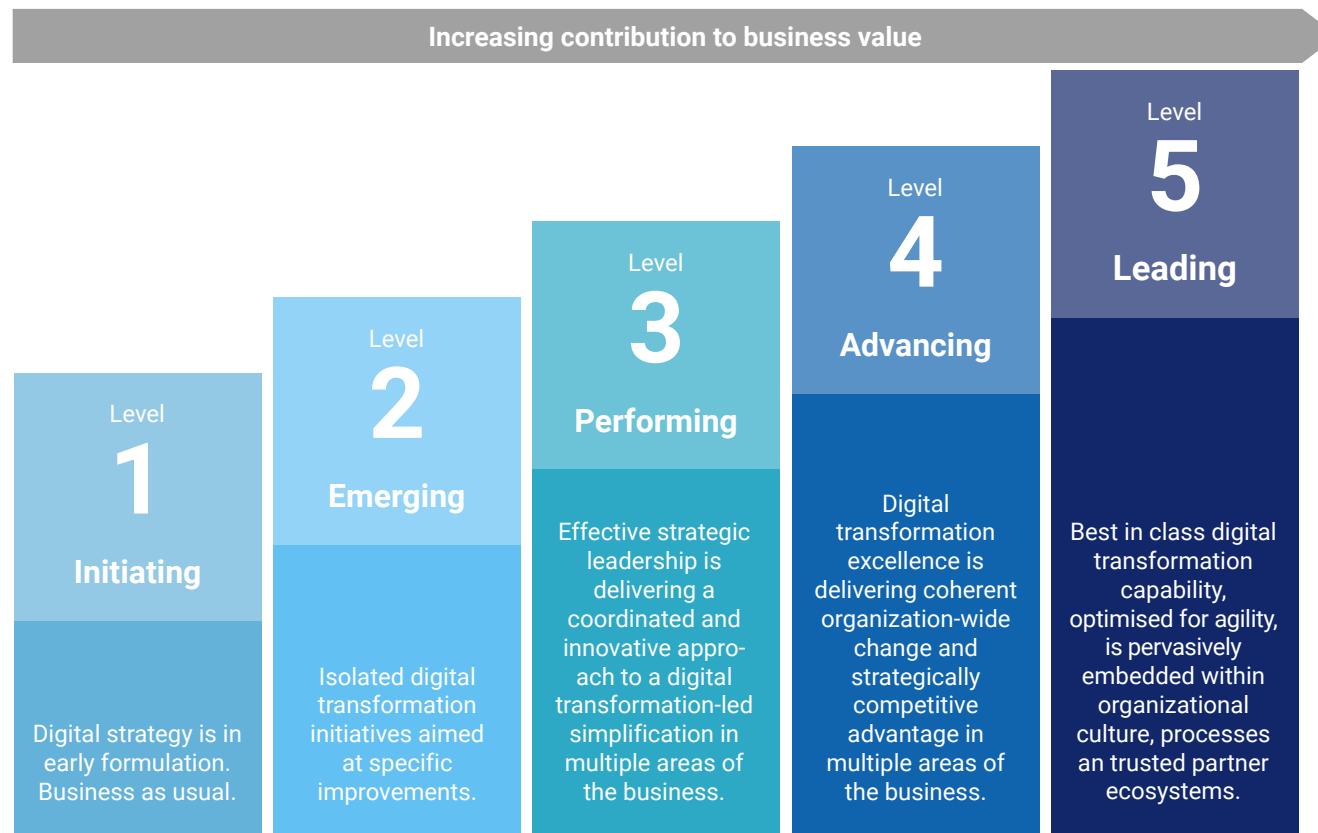


Figure 3: Description of Maturity Levels

The model is usually applied as a self-assessment and can be used to either engage whole organizations, individual departments or even individuals across the organization. The questions are constructed in a way that the prevailing

degree of digital maturity is assessed by rating each sub-dimension criterion. Every criterion has five possible, fully written possibilities of an answer, based on the five maturity levels. The participants rate each question on a

maturity level scale from one to five, from initiating (1) to leading (5).

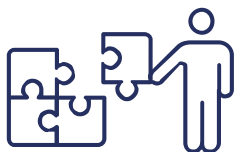
After the assessment, the DMM then provides a comprehensive evaluation of the survey results and determines what's the status-quo of organizations on their digital transformation journey. The outcomes can be used to create heat-maps, to assign priorities to certain areas and start a structured transformation program. The heatmap shows the gaps between the current and targeted levels of digital maturity across the dimensions and sub-dimensions. With this positioning of an organization, actions can be derived that enable businesses to create goals and plans, both short and long term or to make impactful transformation project investments.

The DMM can also be used to track progress of a digital transformation. Regular assessments make an organization's change measurable, and success becomes visible. Therefore, organizations can check if they are still on track of their digital transformation roadmap or if and where additional steering is necessary for a productive and successful transformation. This enables organizations to react early to unwanted deviations or adapt to a changing environment.



Results & analysis

Key findings



Telcos' strategy management has digitalization at their core

With a score of 3.17, Strategy Management is among the top scoring sub-dimensions of the entire study. Since the strategy serves as an integral part to guide the path towards an organization's vision and mission, telcos have embraced digitalization as a core guiding principle when crafting new strategic approaches to business problems or service expansion. The comparison to other dimension scores shows that cascading of the strategy into day-to-day operations is a bigger hurdle than the strategy formulation itself.



Telcos enjoy the trust of their customers in delivering on their brand promise

European telcos are considered especially trustworthy by their customers, as indicated by a score of 3.02 in the Customer Trust sub-dimension. In the face of ever repeating scandals regarding the handling of customer data across the big tech companies and hyperscalers, telecommunication operators – who often have long lasting customer relationships – are generally more trusted by their customers and should play on this strength when building their future services and products.



Digitalization in telcos is technology driven

Technology capabilities of the organization are essential for the delivery of business objectives, and therefore IT and technology departments drive the digitalization in telcos. Especially Security scores amongst the top sub-dimensions of the study with a 3.31. Since telco core business encompasses the operation of critical infrastructure, this indicates that high priority is placed on implementing security by design in products and services. Lower scores are observed amongst technologies regarding applications and platforms, where telcos still struggle to adapt to newer technologies.



Service Design & Innovation in operations requires more agilization

Throughout most telcos, methods such as design thinking, agile development, continuous service innovation etc. only emerge through individual, isolated digital transformation initiatives aimed at specific improvements. Particularly in Europe, the lowest scoring region with 2.55, this can be explained by the fact that the European carrier landscape consists of many long-established companies in the telecommunications industry with rigid structures that need to be overcome on the way to a holistically applied agile and digital delivery model.



Lack of formalized data governance hinders the value-adding utilization of the incredible amount of data that telcos possess

The value of data-based decision making has long been acknowledged. However, most telcos still conceal their data within silos – which hinders the overarching value realization as synergies and critical masses of datapoints are not realized. Access to properly formatted and tagged data models across different departments is the basis for all further analysis and engineering and subsequently, the realization of economic benefit. Telcos should engage in pushing forward holistic data governance structures, which are currently still lacking, as indicated by the score of 2.48.



Pro-active Talent Management is required to build and retain the relevant skills for future success

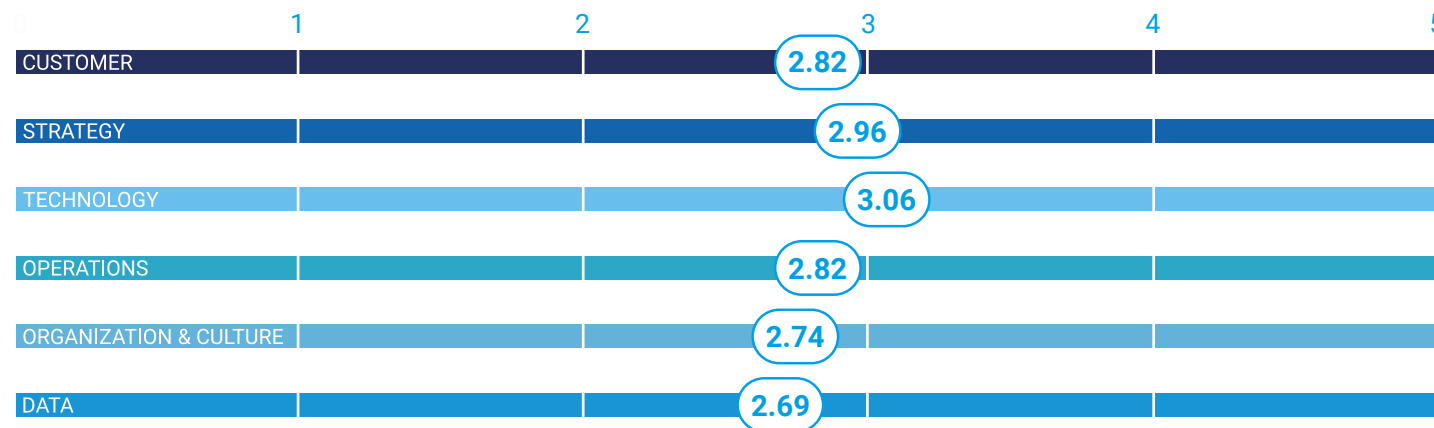
People are at the core to ensure transformation success. Strikingly, Talent Management scores the weakest in the entire study (2.42). The rapid technological changes in the industry constantly require new skills and capabilities. Without sustainable talent management, future business success is at risk. Therefore, strategic workforce planning and development is required. Digital skills are highly in demand in every market, and telcos struggle to gather the right talent to further push into those fields, as technology giants soak up the key talents with attractive rewards and innovative working environments.

Results of the study

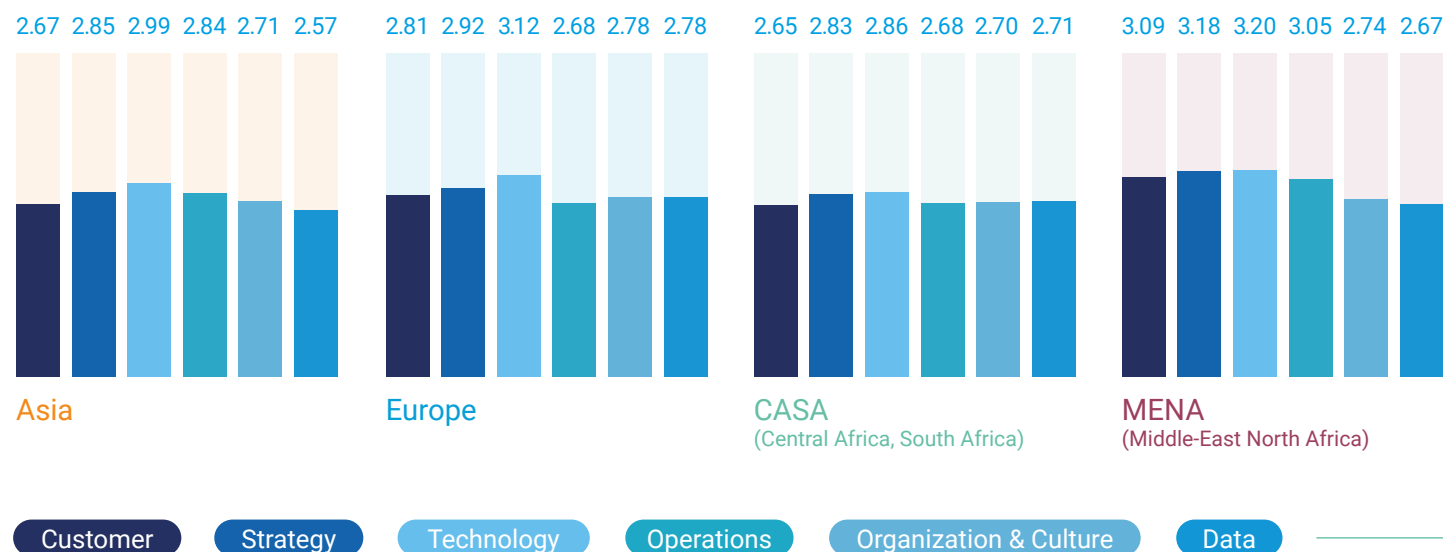
The overall scores paint a picture, which in most cases is to be expected with regards to the development standards of the regions in question – with only the highest scoring MENA region being an outlier. This will be further analyzed below in the analysis part. In the grand total scheme of things, the Technology dimension scores the highest, followed by Strategy and Customer, and subsequently Operations, Organization & Culture and Data.

The MENA region achieves the highest results across the board, with Customer score of 3.10 being the strongest value and Organization & Culture the lowest at 2.71. This is followed by Europe, where according to the grand total average, Technology dominates with a score of 3.12 and Organization & Culture and Data are tied for the last place with a 2.78 each. Asia's strongest scoring dimension is Technology as well with a 2.99, while Data scored comparatively low with a 2.57 – the lowest result across the board. In CASA also, the Technology dimension is on a performing level, while the Customer dimension is the weakest in score.

Figure 4: Result of each dimension



Grand Total



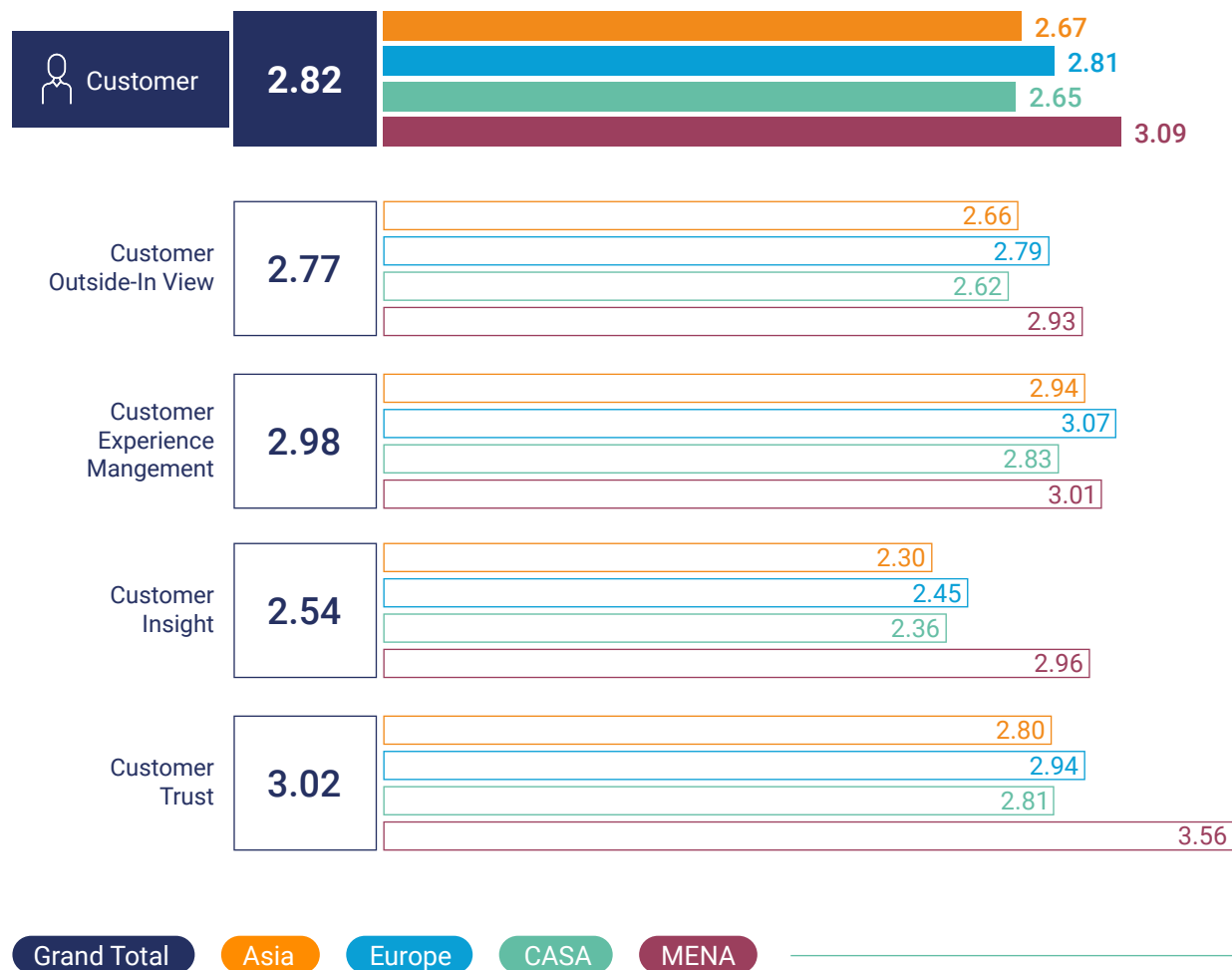
Deep dive

Customer

The Customer dimension evaluates the provision of an engaging experience when customers view the organization as their digital partner using their preferred channels of interaction. On the grand total comparison, the customer dimension scores a 2.82 – being on rank 3 of the dimensions. This dimension's maturity levels are close to reaching the “performing” status, indicating value-add through digital maturity across the organization. This underlines the fact that digital initiatives in the light of “customer first” and measured by the Customer Outside-in View, Customer Experience Management, Customer Insight and Customer Trust are starting to pick up traction within telco operators globally. These are perceived to add value.

The Customer Outside-in View, which describes the organization's delivery of a good experience with its products and services, scores a 2.77 on average and is therefore slightly below the average score across all sub-dimensions. Across all regions the sub-dimension underperforms the dimension's average, indicating that the criteria

Figure 5: Result of Customer



of the sub-dimension – which describe, amongst others, personalization aspects, targeted marketing, self-customization, ease of use and proactive care aspects – are still on a comparatively low maturity level. Customer convenience across several channels with relevant customization and targeted marketing increases in relevancy in the struggle for customers in the telecommunications industry. Global technology companies have mastered those fields and customers are getting used to those services – telcos need to close the gap so as not to frustrate customers with non state-of-the-art treatment.

The sub-dimension Customer Experience Management, across all regions, outperforms the average score of all dimensions as well as the average dimension score for customer with a 2.98. Criteria along the lines of experience driven design, customer experience vision, portfolio scope, omnichannel and customer journey management are therefore in the grand average rated to be performing in the organizations. As customer experience management, across all channels, as well as the importance of well managed and measured customer journeys is a hot topic for projects in the telco industry for several years – the impact of those measures is clearly reflected by that score.

Customer Insights, with a score of 2.54 is amongst the three lowest rated sub-dimensions across the whole survey. Even with the MENA region strongly outperforming (3.11) the average customer score, this result shows that data analytic capabilities that create 360-degree views of customers, single sources of truths for data as well as listening to the voice of the customer are still an area with significant room to improvement before performing and adding value across the organization. This is in line with the data related findings from the respective dimension data. Properly assessing, engineering and subsequently generating actual value from customer data is still in the early stages, especially in Asia and CASA, and to some extent also in Europe. Interestingly, the MENA region rates a comparatively strong 2.96, which is in line with our experience of strong focus on utilizing data platforms in the region for several years.

Customer Trust is with an overall score of 3.02 an above-average strong sub-dimension – across all regions and outperforming the other sub-dimensions in the Customer dimension. Criteria such as brand promise, privacy and controlling of personal information achieve close to performing scores in most sections. In light of ever repeating

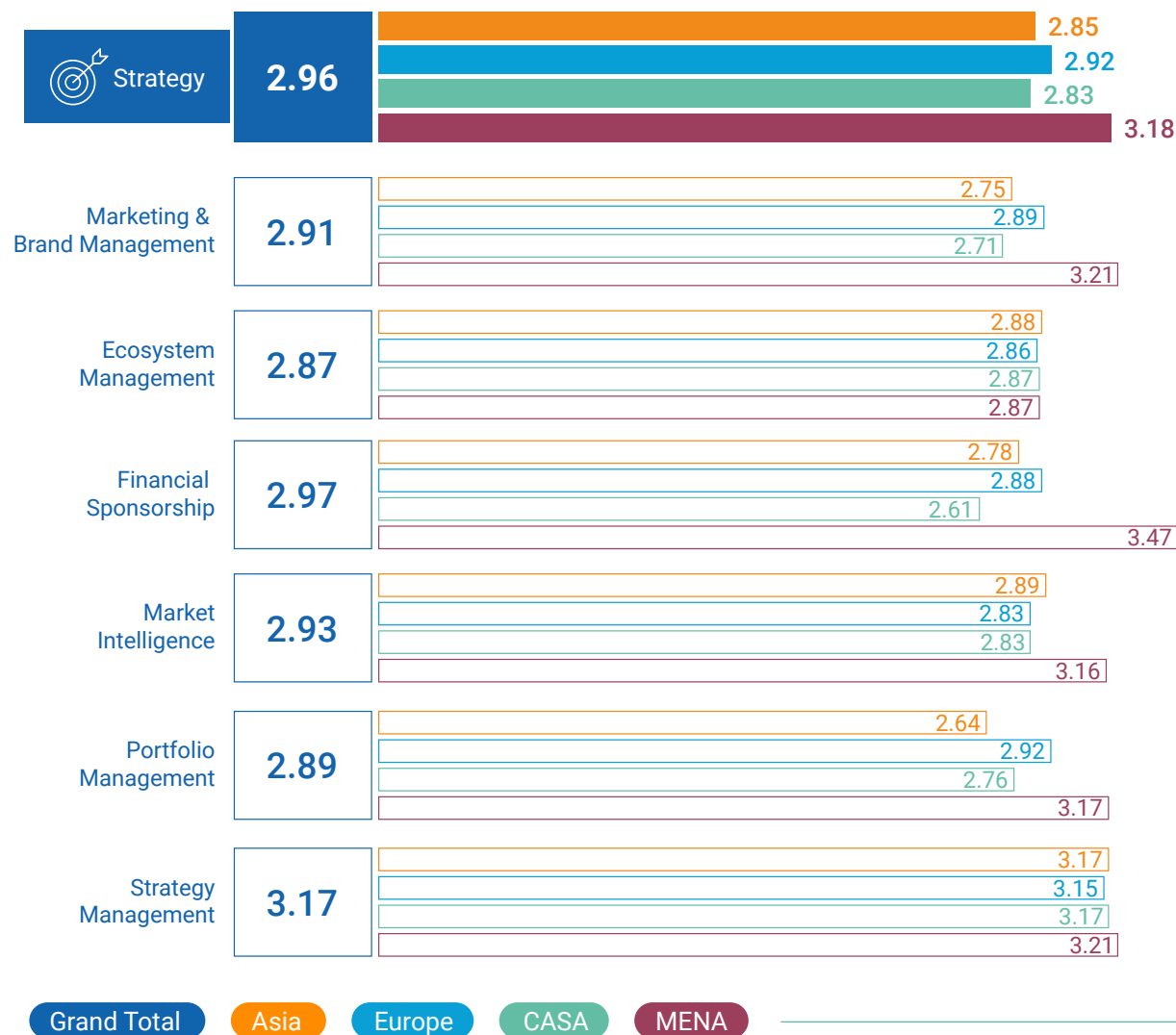
data scandals across the big tech companies and hyperscalers, telecommunication operators – who often have long lasting customer relationships – are generally more trusted by their customers. This however strongly varies between the telcos themselves and their intended brand promise. Large, integrated carriers usually experience a high amount of trust amongst their customers.

Strategy

The Strategy dimension evaluates how well the organization plans to increase its competitive advantage through a comprehensive digital strategy, and then designs a set of initiatives that support the overall business strategy. Overall, the dimension is evaluated at 2.96 out of the five levels. The scores for the different sub-dimensions range between 2.87 for Ecosystem Management and 3.17 for Strategy Management. Comparing the score to the overall results of the study, the Strategy dimension ranks above the overall average of 2.87 and is the second highest dimension after the Technology dimension. This indicates that digitalization initiatives in the Telco industry are generally technology driven, which is consequently translated into the strategic direction of the company.

Marketing and Brand Management evaluates if a consistent brand message is developed and maintained across all channels. The score of 2.91 indicates a slightly below average performance in the Strategy dimension, which also holds true for the regional comparison, with only MENA performing strongly above average with 3.21. The Marketing and Brand Management covers the brand related topics such as brand strategy, brand governance and brand performance as well as marketing strategy. The scores indicate that Marketing and Brand Management is only

Figure 6: Result of Strategy



considered in some parts of the organization. However, since the clear positioning of the brand is essential for every business to secure sales, there should be further focus on the improvement in this sub-dimension.

Ecosystem Management assesses whether the organization can leverage ecosystems to create business value. The overall score for this sub-dimension is 2.87, placing this sub-dimension close to the performing level as well – with no significant differences between the regions. The sub-dimension of Ecosystem Management covers topics such as business ecosystems, ecosystem design and partner selection. Ecosystems are essential to securing business in the future. Without the right partners it will be difficult for carriers to create, scale, and serve markets in ways beyond any single organization's capacity today.

Financial Sponsorship measures whether the necessary financial support is available to support the digital strategy. The topics covered are project funding, investment evaluation and investment continuous improvement – this achieved an overall score of 2.97. Looking at the global distribution of scores, it is noticeable that the best financial sponsorship scores are in the MENA region with 3.47, with

CASA having the lowest score with 2.61. To have dedicated budget readily available and clear processes to retrieve it, is key for every transformation initiative. Without available funding, the best ideas and intentions cannot be realised, and digitalization will stagnate.

The sub-dimension Market Intelligence captures how well market information is gathered to inform the organization's strategy. Relevant topics in this sub-dimension are for example the evaluation of the market and customers, as well as the competitors. With an average score of 2.93, Market Intelligence scores close the performing level. To ensure the company is well informed and is following the latest industry trends and responding to market requirements is business critical. In line with the comparatively low scores in the Data dimension, this result indicates that telcos still struggle to create value by utilizing data.

Portfolio Management assesses if the organization maintains a balanced portfolio of digital products and services and scores a 2.89. The topics covered in this sub-dimension are among others the portfolio roadmap and the portfolio innovation. When comparing the global scores, it is noteworthy that especially the Asian respondents rated

this sub-dimension significantly lower than the other regions with a score of 2.64. Even though Asian economies are increasingly innovative in recent years, it appears that the Asian organizations are still less focused on their portfolio innovation and portfolio roadmap than other regions – at least in the Telco sphere.

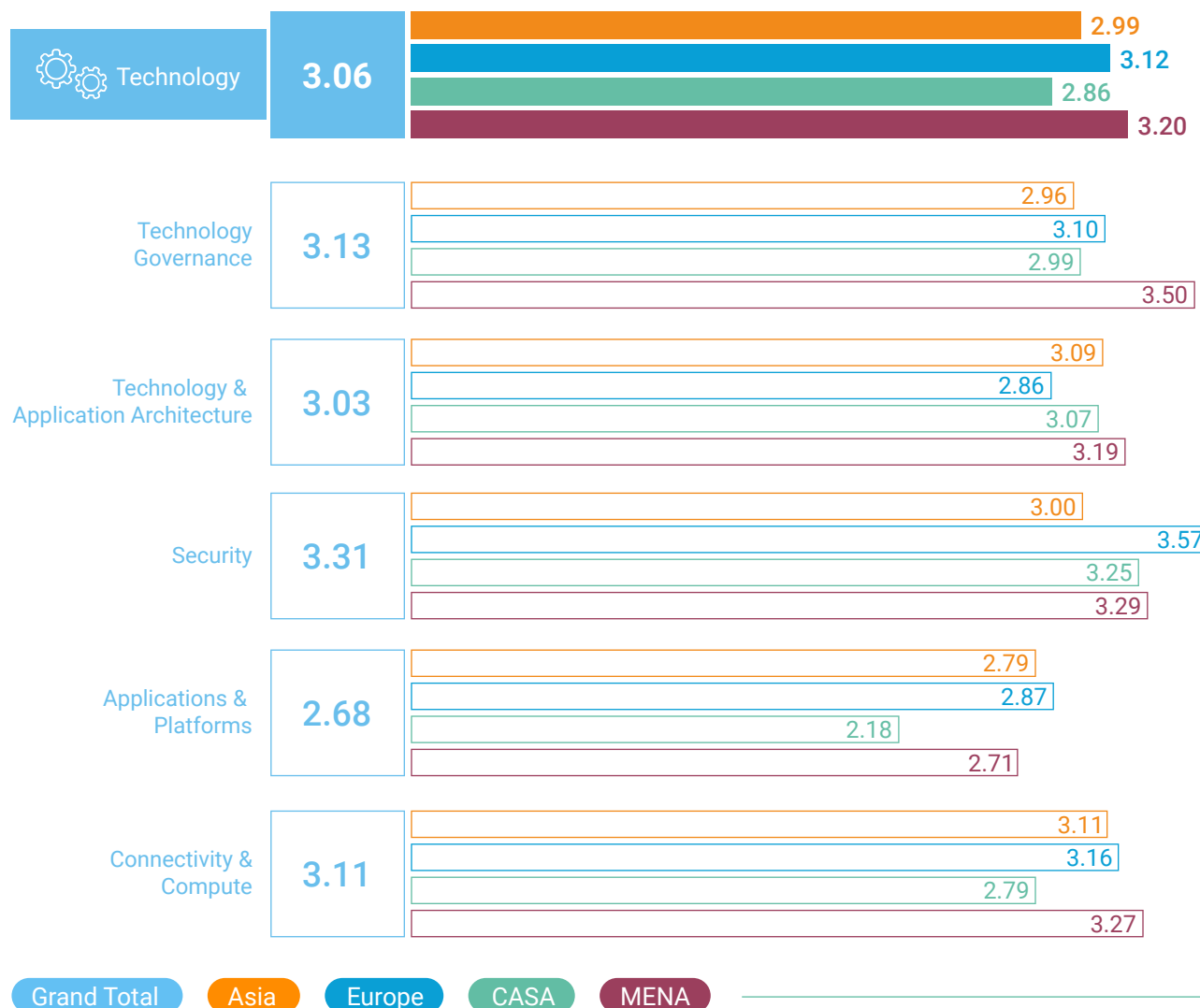
Strategy Management evaluates if a clear and complete digital strategy is developed and adopted by the organizations. Key topics here are for example the alignment between vision and strategy or the adoption of the digital strategy. This sub-dimension received by far the highest overall score with 3.17 across all regions. This score places the Strategy Management sub-dimension well in the performing stage and among the top scoring sub-dimensions of the entire model. This score indicates that strategy departments in telcos have implemented digitalization initiatives in their strategy. The comparison to other dimension scores shows the cascading of the strategy into day-to-day operations is a bigger hurdle than the strategy formulation itself.

Technology

The Technology dimension evaluates the technology capabilities of the organization to establish, maintain and continually transform an environment that supports the delivery of business objectives. In this study, Technology is the dimension with the highest grand total score of 3.06. The dimension is therefore at a “performing” level and is perceived to add value for telcos – across all regions. This is strongly in line with our findings that, especially in Europe (3.12) the digital transformation is often driven by technology itself and the technology departments behind them. While these scores shed a good light on telcos’ digital maturity in terms of technology, by being far above the other dimensions, it also signals that a holistic digital transformation needs to consider the other dimensions as well.

Technology Governance with an average score of 3.13 covers topics such as technology governance frameworks, the use of industry standards and considerations regarding environmental and energy impact of technology. The MENA region achieves a strong score of 3.50 – while the other regions are around the performing mark. Telco operators generally are technology driven, by the nature of their core business. According to the findings, most telcos are therefore already in a position where

Figure 7: Result of Technology



formal governance frameworks are utilized across most parts of the organization to drive implementation of new technologies.

The sub-dimension Technology & Application Architecture received a score of 3.03. The use of modern technologies along microservices, Open Source, cloud evolution, open APIs, etc. is starting to perform in the telco sphere. The MENA region stands out with a 3.19 – showing a comparably strong performance. Interestingly, Europe is the lowest scoring and has not reached performing levels yet (2.86). In line with findings from the Operations dimension, the regional difference can be explained by the prevalence of traditional operators in Europe compared to the MENA region, which are usually slower to adapt to new technological trend. On the flipside, as also large, multi-national legacy providers increase their maturity in those new technologies, the upside will be very strong.

The overall highest scoring sub-dimension in the model is Security. With a score of 3.31, in Europe even as high as 3.57 – and no score lower than 3.0 (Asia), it shows that telcos place high importance into security. Security by design as well as cyber and physical security are a top

priority for infrastructure providers and are therefore by no surprise at higher maturity levels. Europe having the highest score in this dimension is very much in line with the strong regulatory frameworks in place.

Applications and Platforms with a score of 2.68 is the lowest score in the Technology dimension, across all regions. Criteria that describe big data platforms, artificial intelligence and application development are comparably lower rated. This is the result of the lack of a priority on data collection as well as the building up of software competencies in the last years by telcos. Those are skills highly in demand in every market, and telcos seem to struggle to gather the right talent to further push into those fields, as tech giants soak up the relevant talent.

Connectivity & Compute with a 3.11 is another comparatively strong dimension, rating technological features of the core business (such as virtualization, wireless connectivity, internet protocol, cloudification), as well as new technologies such as IoT, edge computing and automation. The CASA region has a comparably low score in this sub-dimension (2.79), which can be explained by geographical as well as socio economic and regulatory factors in those

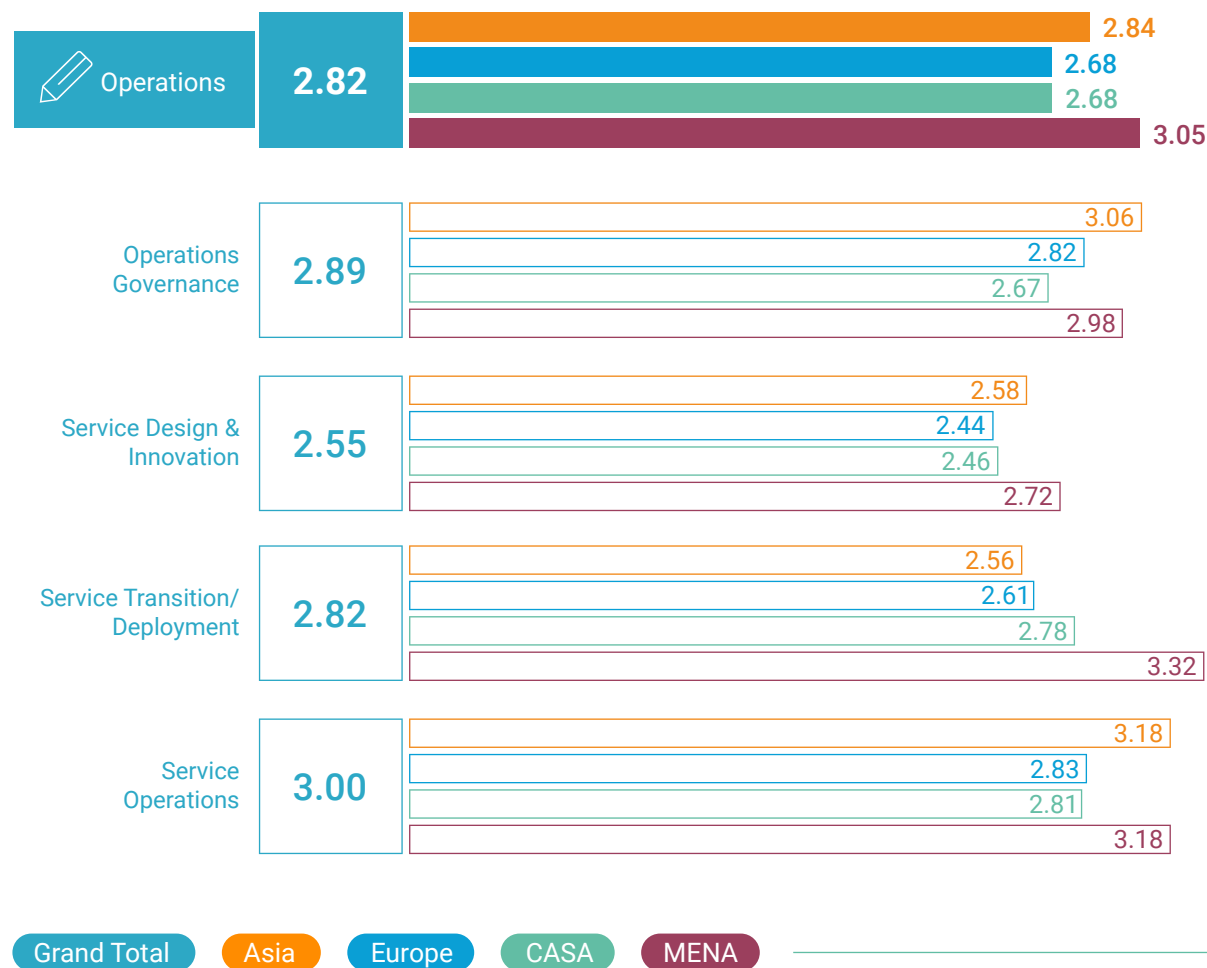
regions. For Europe this is the second strongest sub-dimension across the whole survey, as legacy operators adapt faster to innovations in regard to their core business, as compared for example to completely new business models.

Operations

The Operations dimension evaluates the organization's performance of day-to-day activities that support the execution of the digital strategy. In the global perspective, the participants scored on average 2.82. This result indicates that telcos no longer just start isolated digital transformation initiatives aimed at specific improvements that are emerging, but rather that the digital transformation of operations is increasingly carried out across multiple business units through a coordinated and innovative approach. Comparing the score to the overall results of the study, the Operations dimension ranks below the overall average of 2.85 being on rank four out of the six dimensions. In a regional comparison the Operations maturity of participants from the MENA region is higher than those of the other participants, achieving an average dimension score of 3.05.

Operations Governance assesses whether the organization has effective operations governance in place. It includes, for example, the embodiment of the digital strategy through the operating model, risk management as part of day-to-day operations, compliance with legal and regulatory requirements, and operational security that protects business assets. Within the Operations dimension, this sub-dimension

Figure 8: Result of Operations



outperforms the other sub-dimensions, achieving an average score of 2.89. Organizations therefore have effective operations governance guided by digital transformation in several areas of the company. The result shows, for example, that many organizations have already clearly and completely developed their digital strategy as displayed by a score of 3.17 in the sub-dimension Strategy Management and have also that reflected it in their operating model.

Service Design & Innovation evaluates to what extent the organization can efficiently and effectively design and develop innovative services which deliver business value. The comparably low average score of 2.55 indicates that the digital transformation has so far been less pronounced in terms of Service Design and Innovation. Methods such as design thinking, agile development, continuous service innovation etc. are therefore often not yet developed in multiple areas of the organization, but in some cases, they still only emerge through individual isolated digital transformation initiatives aimed at specific improvements. Europe is the least mature, scoring only 2.44, and is therefore still quite far from reaching performing levels. This can be explained by the fact that the European carrier landscape consists of many long-established companies in the tele-

communications industry with rigid structures that are slowing down the shift to digital operations.

Service Transition & Deployment, which describes the organization's capability to being flexible and effectively delivering and deploying services, scores 2.82. Comparing the results across different regions shows, only the MENA region participants score on average above 3 and therefore reach a performing level of maturity. The development of the MENA region has achieved outstanding growth in the last decade. Since younger telcos don't carry as much legacy weight, they are faster in implementing more iterative and agile ways of working. In addition, proper release management and DevOps principles as well as CI/CD methodologies are much more mature.

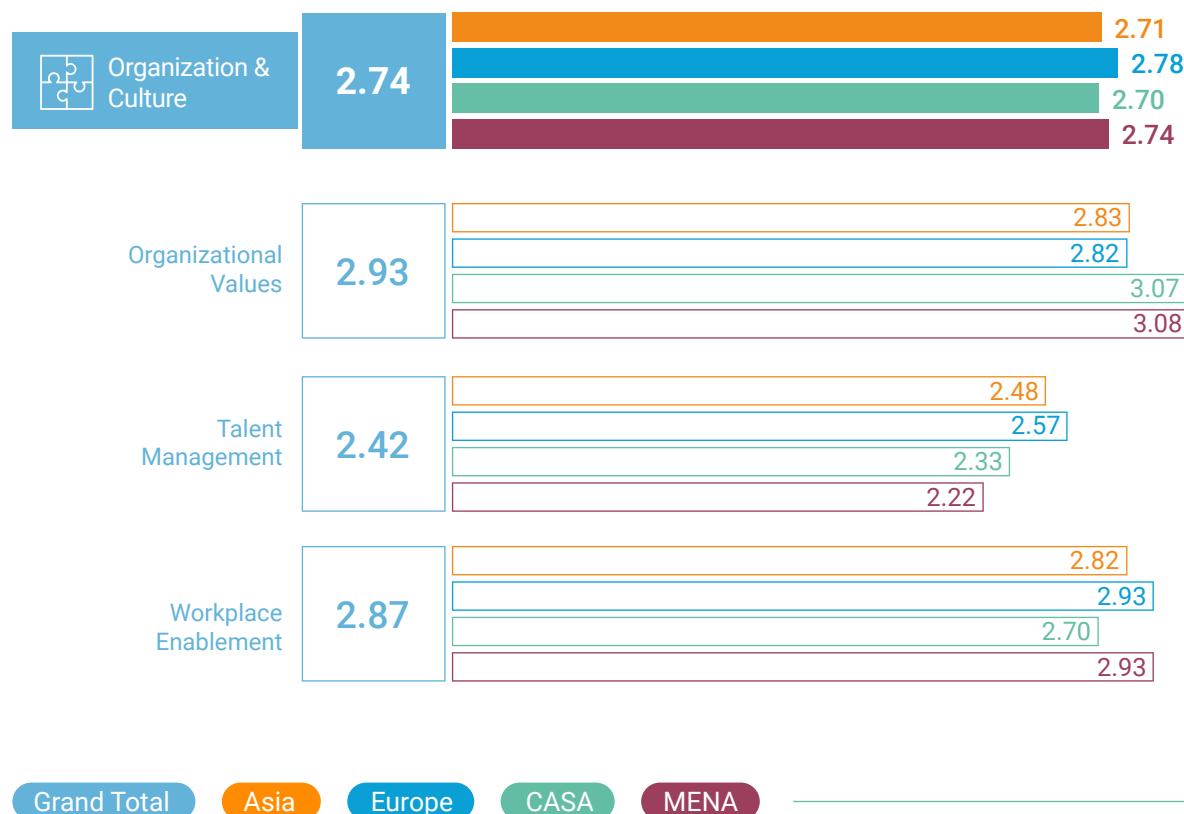
The sub-dimension Service Operations captures the organization's ability to run services in production, ensuring high availability, quality, and responsiveness to demand changes. Scoring 3.0 places it on a performing level, while Asia scores significantly higher in the Service Operations performing clearly above average at a 3.18. This indicates a strong focus of Asian telcos on the consistent performance of their core networks, supported by technology.

Organization & Culture

The dimension Organization & Culture evaluates the ability of an organization to create an environment where everyone is willing and able to create business value. Every digital transformation is ultimately performed by the people of the organization, therefore seemingly “soft” factors such as people and skills are crucial to transformation success. However, the study’s data shows that this dimension scores lower compared to other dimensions. At an overall score of 2.74, the results indicate that most telcos have isolated measures in place, therefore this dimension still is a challenge. Those findings are consistent across all observed regions.

The sub-dimension Organizational Values describes criteria such as leadership behavior, employee impact or a safe-to-fail culture. The sub-dimension scores 2.93 but interestingly, there are significant differences between the regions. Whereas the results of the regions Asia (2.83) and Europe (2.82) are almost equal, the MENA region scores even higher with a total of 3.08 and CASA with 3.07. In line with the sub-dimension of Strategy Management, organizational values are widely considered in telcos – but the cascading down into day-to-day business

Figure 9: Result of Organization & Culture



lags behind as indicated by the lower scores in the other sub-dimensions.

Talent Management captures the extent to which an organization has the competencies, knowledge, and tools to create and develop an effective workforce. Strikingly, this sub-dimension indicates the weakest score among all dimensions and sub-dimensions in the entire study (2.42). There are only marginal regional differences (Europe highest score – 2.57 and MENA lowest score – 2.22) and overall, all regions perform comparably weak here. The telco industry is an ever-changing and dynamic market which evolves rapidly and hence constantly requires new skills and capabilities. Due to the high pace, telcos struggle to retain talent or the timing of up- or reskilling their employees. If no sustainable talent management process is developed and implemented within the organizations, talent management remains poor.

The sub-dimension Workplace Enablement describes an organization's working environment, tool landscape and practices to support productivity and innovation. The total score is 2.87, with Europe and MENA scoring highest (2.93) and CASA lowest (2.70). The score indicates that telcos

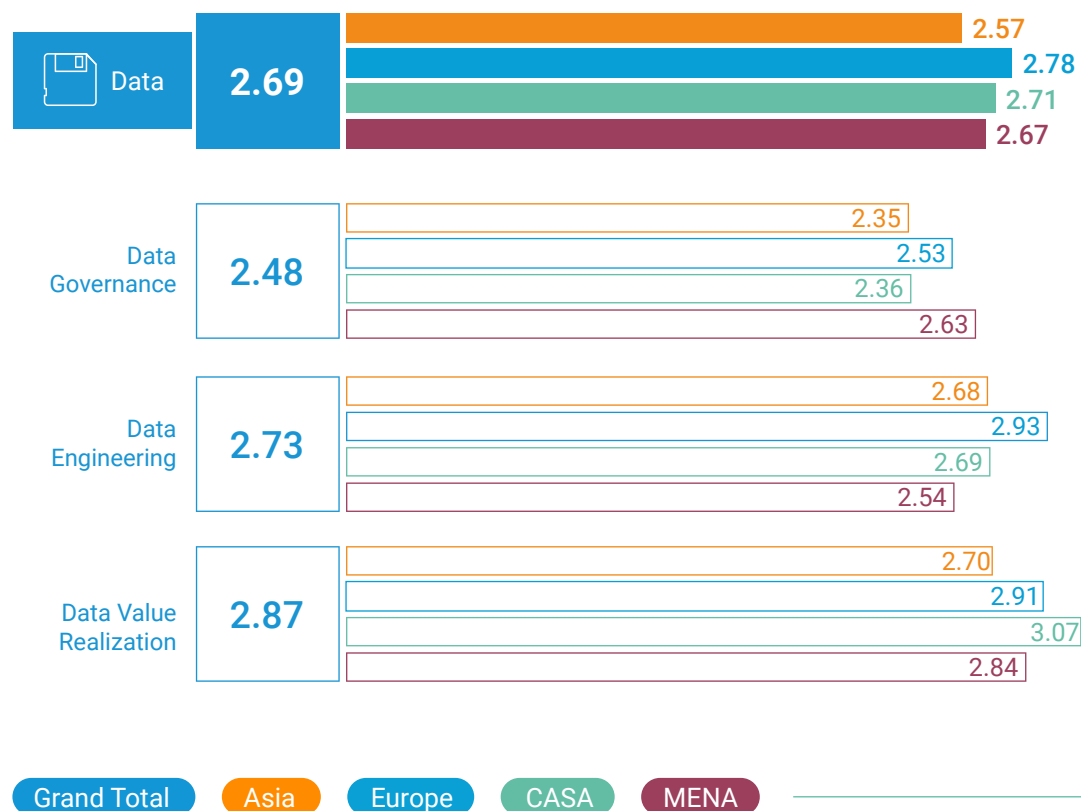
worldwide are just emerging to modernize and digitize workplaces or integrate, e.g. services, applications or collaboration, in order to maximize efficiency and productivity for employees. Those measures are mainly still isolated throughout organizations and coordinated approaches are just emerging. Digital workplace solutions also allow employees to grow in their roles and upskill to take on new jobs within the company which would indeed have a positive effect on talent management as well.

Data

The Data dimension evaluates the organization's ability to strategically, operationally and ethically use data and information assets to maximize business value. The Data dimension scores 2.69 – with still a way to go towards the “performing” level, indicating that telcos are starting to develop comprehensive approaches to collect and manage data and information and to add value to the business. The score is one of the weakest within the digital maturity framework in this study, suggesting that the telco industry is still facing challenges. In a regional comparison, Europe, with an average score of 2.78, has the strongest overall performance in this dimension indicating that the value of data for telcos has been recognized – however, not directly in line with the relatively low results for customer insights and market intelligence.

The sub-dimension Data Governance evaluates if an organization has an effective data governance system in place. An overall score of 2.48 rendering it the weakest sub-dimension, as well as the main driver of the low score in Data dimension. Being in the middle between level 2 and 3, suggests that telcos worldwide are starting to build effective data governance systems. Those enable

Figure 10: Result of Data



telcos to ensure high data quality exists throughout the complete data lifecycle, and data controls that support business objectives are well implemented. The MENA region, scoring 2.63, leads the regional performance while other regions score no higher than 2.53. It indicates that strong focus on the improvement in this sub-dimension is needed, especially in Asia and CASA region.

The sub-dimension Data Engineering evaluates if an organization has effective systems and processes in place to collect, transfer, store, and process data. The overall score for this sub-dimension is 2.80, Europe leads the regional performance with an average score of 2.93. It indicates that telcos worldwide have invested resources in this area and, to some extent, developed working systems and processes for data collection and analysis. This is a crucial requirement to realize actual value from data, and subsequently enables higher scores in the data value realization as well as other data focused sub-dimensions such as Customer Outside-In View, Customer Insight, and Market Intelligence.

The sub-dimension Data Value Realization evaluates the ability of an organization to realize business value from its data assets. The overall score for this sub-dimension is 2.87, the CASA region leads the regional performance with an average score of 3.07 – solid “performing” level, and no region scores below 2.70. Realization of value from data usually relies heavily on the quality of the underlying data – as measured in the previous subdimension. This score reflects, however, that value can be generated by taking data-based decisions, even when not holistically applied, but rather punctuated throughout the organization.

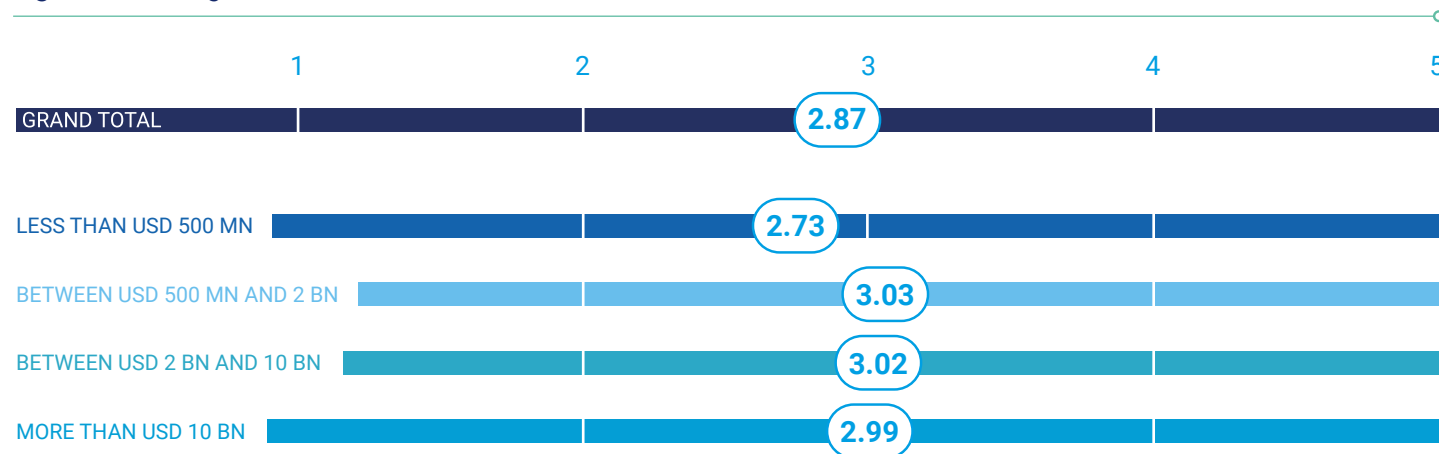
A strong correlation between the sub-dimensions Data Engineering and Data Value Realization is observed regardless of the region or the score from the sub-dimension Data Governance. However, it does not imply that Data Governance is of a lower importance, on the contrary, Data Governance serves as one of the key enablers for the other two sub-dimensions. Securing high data quality throughout the entire data lifecycle is crucial for value-adding data analysis and subsequently decision making.

Deep dive company size

After the gathering of the Digital Maturity results, the study also observed whether revenue and number of FTEs would have a significant correlation with the digital maturity score of telcos. In the specific case of digital maturity, it could be expected that a larger corporation with deeper pockets would automatically lead to higher levels of digital maturity. On the other hand, especially large, international legacy operators often have trouble to digitalize their big “tanker” in holistic way. Usually, digitalization initiatives are scattered across the different departments with often times no overarching alignment, decreasing efficiency.

Revenue numbers indicate that smaller organizations, below USD500mn in yearly revenue, score on average across all dimensions at 2.73. Very large organizations with over USD20bn of annual revenue score a 2.99, which is in line with the observations described above – even if not by a large

Figure 11: Average of DM Score | Revenue

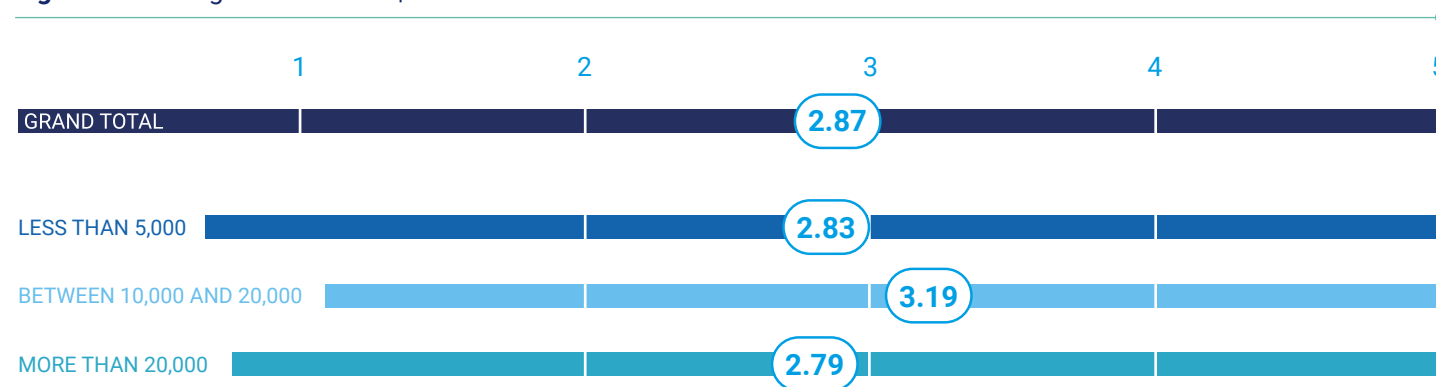



margin for the large organizations. In the study, mid-sized operators between revenues of USD500k – and USD10b received scores above the level of 3 (3.03 and 3.02 respectively).

The exact same result was achieved by looking at FTE numbers, where the smallest and largest category score lower (2.83 and 2.79 respectively) scored lower than the category of organizations between 10–20k employees (3.19).

These results can be explained that in those mid-sized carriers, many of the participants were rather comparably young companies, with not as many legacy systems and overhead to carry than the legacy operators. This gives them a head start when implementing digitalization initiatives across the organizations. As previously described, large with global footprints have even more to gain when realizing efficiencies through digital transformation – as there is even more room for improvement.

Figure 12: Average of DM Score | FTE





4 When to use a DMM? Success stories

The DMM is a tool that can be used in a variety of ways, depending on the goals and vision of the organization. In the following, two success cases where the DMM was used as a facilitator to increase telcos digital maturity levels are showcased.

Case study: DM assessment at telco group with OpCos with global footprint and highly diverse markets

The Group Strategy department had created a generic strategy to become more digital, and to centrally steer the digital transformation of the different OpCos. They identified the need to tackle their digital transformation in a structured way with clear initiatives and measures for each of the OpCos, but at the same time able to realize economies of scale.

Therefore, the group with its five international OpCos asked Detecon to conduct a DM assessment in 2018.

Detecon delivered the assessment in several steps:



Online questionnaires were tailored based on the groups' and OpCos' special needs



The online questionnaires were distributed and filled out by the OpCos, subsequently the results were analyzed and processed by Detecon



In management workshops across the OpCos the results were discussed and strategic imperatives were derived



The strategic imperatives were forged into a roadmap of measures, a final report was created and presented by Detecon at the group's strategy meeting

In 2020 the group participated in the DM study, and was able to reassess the digital maturity of their organization. Even though the study was on a higher level than the original deep dive assessment, an overall positive trend across all dimensions and for all OpCos could be identified. According to the results, the group was able to increase their digital maturity levels by following the recommendations and measures proposed by Detecon in 2018.

In the course of the reassessment, additional insights about future development topics were gathered. As a result, Detecon was able to provide additional expertise in the Data dimension, helping the group to define their Data monetization strategy for the next years.

Case study: DM assessment at large European incumbent

Following a major organizational restructuring from a classic waterfall organization with strict hierarchies to an agile organization, the need for further digitalization emerged. To facilitate this need for digital transformation, a dedicated

unit was formed. This unit was regarded as an internal facilitator, equipped with a digitalization budget on its disposal to kickstart and fund digitalization initiatives.

In order to gain a better overview of the status quo, the European incumbent approached Detecon for support in assessing the initial digital maturity levels and determining first initiatives and measures to drive digitalization and create a digital transformation roadmap.

In a first step, the organization was screened, and relevant departments identified. With these departments, six in total, a tailored DMM was conducted, which was previously aligned with the dedicated transformation unit. For this assessment we chose a holistic assessment, covering all six dimensions and their respective sub-dimensions. Following the DM assessment, expert workshops were conducted to provide further insights and to validate the given scores from the self-assessment. These insights were the basis for the development of digitalization initiatives. With insights and support from our Detecon industry experts, the workshop groups developed tangible transformation measures, tailored to the specifics of the client. Since

the transformation capacity of an organisation is limited, and many initiatives are related and build upon each other, all measures were ranked according to criticality and time. The heatmap of these initiatives was later used as the basis for the development of the strategic transformation roadmap.

By utilizing the DMM, Detecon enabled its client to gain a holistic overview of its current digitalization challenges and to determine critical focus areas for transformation. Especially the identification of potential quick wins lead to early success and secured top-management buy-in.



Summary and industry outlook



Digitization competition in particular is having a massive impact on the position of telecommunications companies. They have a special role to play because, on the one hand, they have to work intensively to exploit opportunities for themselves, manage risks and take consistent steps in the direction of a “Digital Telco”. On the other hand, they provide the infrastructure for data transmission and data processing and thus form the indispensable basis for the digitization of other industries and entire national economies.

The results of the study clearly indicate that telcos, across all regions and sizes, have more than acknowledged the many benefits that an increased digital maturity of their organization offers. For many of them, transformation initiatives are in full effect. The telco industry has not been as harshly affected by the COVID-19 pandemic as other

industries, as demand for their services even skyrocketed with the majority of people being in some lockdown scenario, demanding connectivity and entertainment solutions. Gaps in delivering that infrastructure became very visible for the public in the course of the pandemic.

At its core, the DMM provides a baseline for an organization to start a transformation. The question is – how to start and where to go from there? To get the most value out of the results of DM assessment, telcos are well advised to focus their resources on

the initiatives that play into their strategy to position themselves in one of the abovementioned quadrants.

Telcos that focus mainly on providing connectivity, should focus on setting their digital maturity initiatives with a focus on digital efficiency when building up, running and

scaling their core networks. SDN/NFV and process automation are key technologies, where high sufficiency enables for competitive advantages. For platform enablers, efficient onboarding of ecosystem partners and the provision of advanced solutions, such as network slicing, are keys for success.

Telcos that focus on a broad B2C service portfolio, including value added service, need to compete with the marketing power fuelled by big data from hyperscalers, and need to achieve similar levels of customer experience and easy-to-use user interfaces to win new and retain existing customers. Focus on finding the right partners for value added offerings, improving customer journeys based on data and bringing customer experience to an outstanding level, while playing to the existing strengths of security and customer trust, are the areas where those players should focus.

— “ —
Telcos, across all regions and sizes, have more than acknowledged the many benefits that an increased digital maturity of their organization offers.



Our thoughts on the industry outlook:



The industry wants to go “beyond connectivity”, but most transformation efforts fall short of the change required – capturing value beyond connectivity requires deeper transformation



Digital transformation success relies on organizational alignment across functions



Connectivity-as-a-service becomes a core component of “digital infrastructure”, delivered through partnerships



Misalignment and poor communication of the north star, the “why” behind transformation, causes projects to fail



Delivering on the ambition requires change in mindset, end-to-end – “Culture eats strategy for breakfast” – Peter Drucker



Digital agility demands a new approach to your technology and operations



Data is the new oil and the base of future business success

In conclusion, interesting times for telcos are certainly ahead. We are happy to help you shape your future strategy and implement the necessary measures to increase digital maturity and stay ahead of the competition. Detecon has more than 40 years of experience in the telco sphere, serving clients from all around the globe.

Authors



Silvia Flachowsky

is a Managing Consultant and Tribe Head for Organization, Restructuring and HR at Detecon. She is leading the TM Forum collaboration regarding Digital Maturity and is a certified co-developer of the Digital Maturity Model.



Lasse Degner

is a Consultant and member of the squad Restructuring and Transformation at Detecon. He is part of the TM Forum Digital Maturity and Digital Organization Transformation programs and a certified co-developer of the Digital Maturity Model.



Fan Fu

is a Business Analyst at Detecon and has a strong focus on the telco industry. He advises clients on organizational and financial topics such as digital maturity assessment, digital organizational transformation, and strategic finance.



Felix Sprenger

is a Senior Consultant at Detecon and Head of Restructuring & Transformation within the Chapter Digital Operations & Performance Chapter. His focus is on the telecommunications industry, where he specializes on digital maturity assessments and target operating model design for international carriers.



Kim Gertkemper

is a Consultant at Detecon and advises clients from the telco industry on strategic and organizational topics such as digital maturity, their transformation journey, and skills assessment.

Appendix

The Digital Maturity Assessment study is a quantitative research study with information gathering using an on-line questionnaire.

Within this study, an overall number of 30 globally operating companies in the telecommunications industry have been surveyed. The study was conducted in the period from June 2020 to July 2021. The questionnaire used was based on the DMM as presented in section 3. The study was conducted with the help of the online tool Netigate. A separate survey link was created for each organization and sent to a contact point at the organization. When answering the questionnaire, the participants had the option of pausing the survey at any time and returning to it at a later point of time. The respective surveys were open and available for editing for an average of four weeks after being sent to the participants. The basis for identifying the relevant contacts was the respective networks of Detecon.

The structure of the questionnaire was divided into six categories with a total of 25 questions. The average survey completion time was about 15 minutes. The participants were shown a disclaimer, to answer the questions based on their current knowledge and understanding of the questions. Participants were asked at the beginning of the questionnaire to leave out questions that they could not answer using their own experience and convictions. Similarly, participants gave their assessment anonymously, so that no conclusions could be drawn about individuals in the respective companies.

The results of the study are based on self-assessments by the participants and do not necessarily represent the entire organization/company surveyed.

Abbreviations:

MENA: Middle-East North Africa

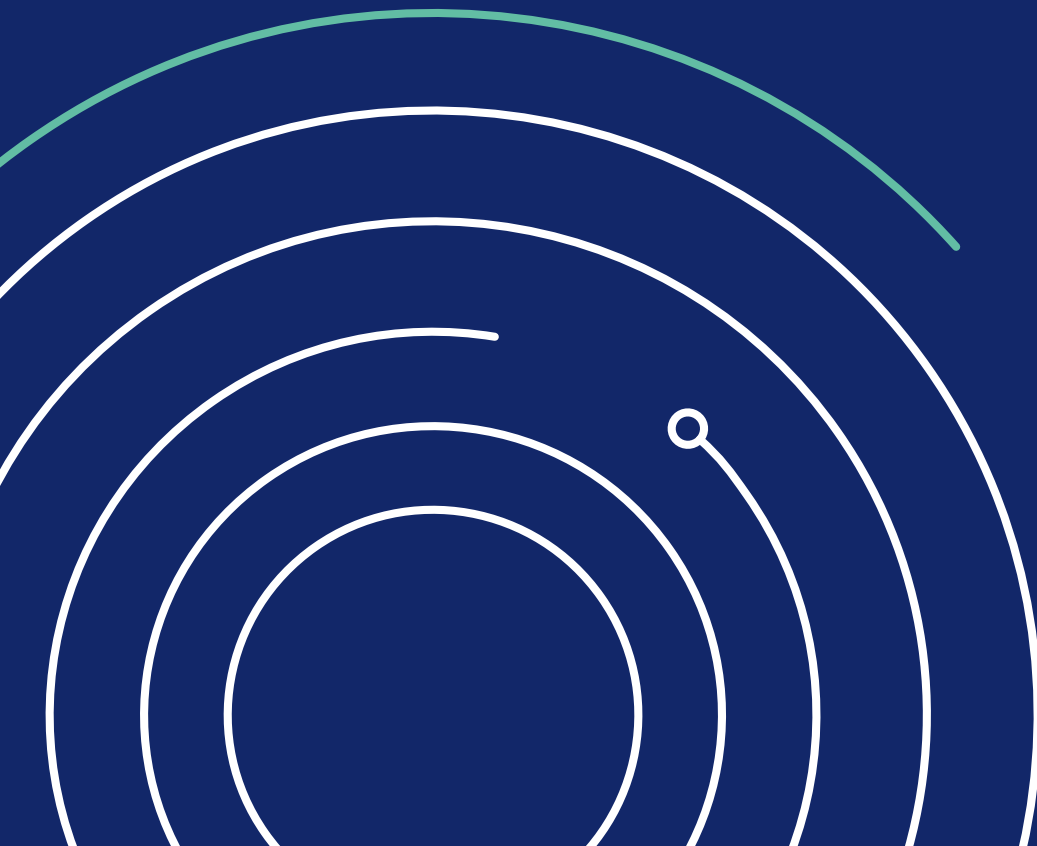
CASA: Central Africa, South Africa

DMM: Digital Maturity Model

Telco: Telecommunications Operator

AI: Artificial Intelligence

OpCo: Operational Company



Editor:
Detecon International GmbH