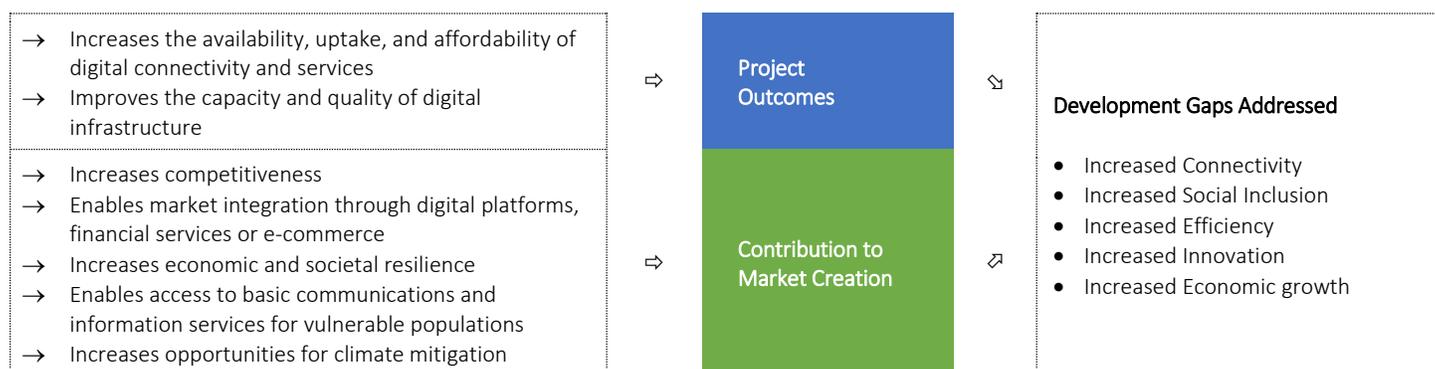


Scope - The TMT framework focuses on investments in digital infrastructure and covers five sub-sectors of IFC’s investment: Mobile Network Operators (MNO), Tower Companies (Tower), Broadband Networks (Broadband), Data Centers and Satellites. This brief discusses key common areas across the frameworks and uses the Tower Companies framework to provide specific examples.

Development Impact Thesis – IFC’s operations for digital infrastructure investments is the promotion of digital connectivity and services, including mobile and fixed telecommunications as well as information services that are enabled by such infrastructure. Digital infrastructure is the backbone of the digital economy. It consists of undersea, underground, and above-ground cables, tower sites, data centers and satellites, as well as the spectrum assets and rights including the variety of equipment that internationally connect and facilitate the delivery of products and services in all sectors. The business models through which such infrastructure can be delivered vary from integrated operators to wholesale / shared infrastructure models. Investment in digital infrastructure:



Rating Construct – All AIMM sector frameworks include detailed guidance notes that help define Project Outcomes and Contribution to Market Creation, aggregating to an overall assessment of development impact. The table below provides a summary of project and market creation outcomes indicators for Tower Companies projects.

- For project outcomes, stakeholders’ effects, including access, affordability and quality, are the key dimensions for which industry-specific benchmarks define the context in which an IFC operation seeks to drive changes. Environmental claims can be considered where a clear counterfactual can be established and where the investment intent is to improve environmental outcomes. The gap analysis is combined with impact intensity estimates that specify the expected results using predefined indicators.
- For contribution to market creation, industry-specific market typologies define stages of development for two market attributes (or objectives): competitiveness and integration, while recognizing other market attributes like resilience, inclusiveness and sustainability. These market typologies, when combined with estimates of how much an intervention affects the development of a market attribute, provide the foundation for assessments of market-dimension potential for delivering systemic changes.

PROJECT OUTCOME INDICATORS		CONTRIBUTION TO MARKET CREATION INDICATORS	
Stakeholders	<p><u>Access</u></p> <ul style="list-style-type: none"> • Geographic & Population Coverage - Mobile broadband (3G and above) • Number of mobile broadband subscribers (3G+) • Number of tower tenants <p><u>Affordability</u></p> <ul style="list-style-type: none"> • Number of tenants per tower (tenancy ratio) – a measure of service efficiency that can impact service prices • Tower lease rate <p><u>Quality</u></p> <ul style="list-style-type: none"> • Number of towers, quality of towers (e.g. environmentally enhancing), type of technology 	Competitiveness	<p><u>Market structure</u></p> <ul style="list-style-type: none"> • Change in the number of tower companies • Change in the number of carrier-neutral towers • Change in the market share of the largest independent tower company <p><u>Technology</u></p> <ul style="list-style-type: none"> • Introduction of new best practices (e.g. small cell technology) <p><u>Market pricing</u></p> <ul style="list-style-type: none"> • Change in the price of service (tower lease price, and potentially retail mobile price) <p><u>Market regulation</u></p> <ul style="list-style-type: none"> • Qualitative assessment of the changes in regulation and how firms apply/enforce new regulation – for example, regulation pertaining to tower sharing and infrastructure sharing
		Integration	<p><u>Integration through digital platforms</u></p> <ul style="list-style-type: none"> • Change in the ICT Development Index (ITU) or growth of ICT value added • Number of companies that are providing e-money, e-transfers or mobile banking services • Change in the e-government service provided • Change in the number of local apps developed <p><u>Financial Integration</u></p> <ul style="list-style-type: none"> • Introduction of new financing instrument • Change in access to capital market <p><u>Trade Links</u></p> <ul style="list-style-type: none"> • Change in the internet bandwidth in the market • Number of new digital platforms • Number of firms using digital platforms for sales or purchases

IFC's Environmental and Social Performance Standards define IFC clients' responsibilities for managing their environmental and social risks. While for most IFC investments meeting Performance Standards reflects improved environmental and social performance, effects from implementation of the standards are only claimed in the AIMM framework where a clear counterfactual can be established and where the investment intent is to improve environmental or social outcomes.

Sector Specific Principles or Issues – The following principles will be applied for projects rated under the Tower framework:

Principle or Issue	Treatment Under Framework
End Users Reached	When assessing the development impact of digital infrastructure investments, priority will be given to demonstrating increased access to services for final users. However, the majority of IFC's digital infrastructure investment is expected to be supporting wholesale operators, i.e. operators that invest in telecom network services and sell capacity to retail operators or directly to enterprises and governments. As such, these operators are typically not able to make direct commitments on final users reached (especially consumers). In these cases, the assessment is expected to focus on extensions to service availability and increases in network robustness. While the final access dimension cannot be targeted explicitly, the assessment, where possible, should consider IFC's clients' go-to-market strategies to obtain a qualitative view on the final effects of the investment on users and usage.
Enabling Infrastructure	In assessing the contribution to market creation of telecom investments, two key considerations will be balanced: that telecom infrastructure represents the backbone and the key enabler of the digital economy, thus being critical to the creation of many digital markets and to the improvement of many real markets; and that the market creation effects of a specific project need to be measured and somewhat developed as a result of improved telecom infrastructure. As such, when applicable, the assessment will seek to consider any digital services that, while not being developed as part of IFC's investments, can be proven to be dependent on the infrastructure IFC is supporting.
Active Policy Support	The assessment of market creation will consider whether there is active policy support agreed and designed in conjunction with the World Bank Group or from other development finance institutions, for example in the areas of regulatory capacity strengthening, digital skills support, e-government support etc.

Project Outcomes – The AIMM system considers the extent of the development gap and uses a gap analysis to classify project contexts according to the size of the gap being addressed. The development gap is an estimate of the development challenge that is being addressed by the project and provides context for the project's development outcomes. The gap is sector-specific and is benchmarked against all emerging market countries. The gap assessment uses data collected by IFC from various public sources. The table below illustrates an application of some of the main gap indicators and their indicative benchmarks. Apart from some gap indicators that are naturally bound, all gap indicators are normalized to be scale-free (e.g. relative to GDP or to total population).

COUNTRY CONTEXT	Low Gap	Medium Gap	Large Gap	Very Large Gap
Access % population covered by a mobile-: cellular network	– >= 97%	– Between 90% and 97%	– Between 75% and 90%	– <= 75%
% population covered by at least a 3G mobile network	– >= 90%	– Between 80% and 90%	– Between 45% and 80%	– <= 45%
% population covered: by at least an LTE/WiMAX mobile network	– >= 85%	– Between 70% and 85%	– Between 40% and 70%	– <= 40%
Affordability GSMA Mobile Connectivity Index – Medium Basket Score (monthly cost: of 500MB plan)	– >= 67	– Between 50 and 67	– Between 30 and 50	– <= 30
Quality GSMA Mobile Connectivity Index – Availability of high-performance mobile internet network coverage score	– >= 60	– Between 45 and 60	– Between 30 and 45	– <= 30
GSMA Mobile Connectivity Index – Average download speed for mobile users score	– >= 20	– Between 10 and 20	– Between 5 and 10	– <= 5

The table below provides Project Outcomes indicators along with some indicative benchmarks. These benchmarks provide a first approximation of a project intensity. A complete assessment takes into consideration market-specific factors affecting the project intensity.

PROJECT INTENSITY	Below Average	Average	Above Average	Significantly Above Average
Access Change in population coverage for voice service per \$million invested is...	– Less than 12,000 individuals covered per million USD	– Between 12,000 and 13,500 individuals covered per million USD	– Between 13,500 and 15,000 individuals covered per million USD	– More than 15,000 individuals covered per million USD
Change in population coverage for data service (3G+)	– Less than 8,000 individuals covered per million USD	– Between 8,000 and 9,000 individuals covered per million USD	– Between 9,000 and 10,000 individuals covered per million USD	– More than 10,000 individuals covered per million USD
Growth in infrastructure sharing for wholesale clients of the tower operator	– No increase in number of tenants (for the operator)	– Increase in number of tenants, 1	– Increase in number of tenants, 2	– Increase in number of tenants, >2
Affordability Change in the Price of the cheapest mobile voice plan (for the operator)	– Decrease below 5%	– Decrease between 5% - 10%	– Decrease between 10% - 20%	– Decrease by more than 20%
Tower Tenancy Ratio for the operator	– Relative increase in colocation ratio below 0.1	– Relative increase in colocation ratio between 0.1 - 0.2	– Relative increase in colocation ratio between 0.2 - 0.4	– Relative increase in colocation ratio > 0.4
Lease Rate: Change in the Price of the Service of the Operator	– Decrease below 5%	– Decrease between 5% - 10%	– Decrease between 10% - 20%	– Decrease by more than 20%
Quality Change in the amount of Infrastructure: “Additional number of towers per million USD invested is...”	– Less than 18 towers per million USD	– Between 18 and 20 towers per million USD	– Between 20 and 23 towers per million USD	– More than 23 towers per million USD

The AIMM methodology considers the uncertainty around the realization of the potential development impact being claimed, making a distinction between the potential outcomes that a project could deliver and what could be realistically achievable in the project’s development context. The table below presents the key types of risk factors for Tower projects.

PROJECT LIKELIHOOD	Operational Factors	Sector Factors
Assessment Considerations	<ul style="list-style-type: none"> • Experience and track record of the Sponsor in the target market or in similar markets • Risk from operational and technical completion: for example, risk related to design, installation and performance of the network • Market commercialization: Risk related to capitalize full potential of services in target markets (applies to wholesale operations) • Project’s projected growth relative to the recent history • Risks from new line of business 	<ul style="list-style-type: none"> • Specific regulatory risks (e.g. licenses, sector-specific taxation, spectrum, rights of ways, etc.) • Supporting government policies and programs (e.g. affordable internet, pushing the Digital Economy agenda as a priority, pushing ICT usage, etc.) • Degree of market competition, presence of politically-supported incumbents • Concerted effort within a common WB/IFC strategy (e.g. Digital Economy strategy)

Contribution to Market Creation – The markets in which the potential catalytic effect of IFC’s projects will be assessed include the telecom and the digital service markets. For example, the tower market is defined in general terms by consisting of tower companies and mobile telecom infrastructure providers. The table below provides indicative benchmarks and focuses on core market attributes that IFC investment projects typically affect. IFC’s detailed guidance note includes more information on how IFC investment projects may contribute to changes in the other market attributes.

MARKET TYPOLOGY	Highly Developed	Moderately Developed	Underdeveloped	Highly Underdeveloped
Competitiveness	<ul style="list-style-type: none"> – Share of open infrastructure above 70% – Market concentration index (HHI) is below 3,000 – Networked Readiness Index (NRI) above 5.5 – The index value for the representative mobile basket is above the 75th percentile in all economies, above 74 – The index value for the handset price is above the 75th percentile in all economies, above 96 – ICT Regulatory index is above 87 	<ul style="list-style-type: none"> – Share of open infrastructure between 40 and 70%. – HHI between 3,000 and 5,000 – NRI between 4.7 and 5.5 – The index value for the representative mobile basket is between the 50th and the 75th percentile in all economies, between 59 and 74 – The index value for the handset price is between the 50th and the 75th percentile in all economies, between 86 and 96 – ICT Regulatory index is between 75 and 87 	<ul style="list-style-type: none"> – Share of open infrastructure between 20 and 40%. – HHI between 5,000 and 8,000 – NRI between 4.1 and 4.7 – The index value for the representative mobile basket is between the 25th and the 50th percentile in all economies, between 42 and 59 – The index value for the handset price is between the 25th and the 50th percentile in all economies, between 71 and 86 – ICT Regulatory index is between 62 and 75 	<ul style="list-style-type: none"> – Share of open infrastructure below 20%. – HHI of above 8,000, close to a perfect monopoly – NRI below 4.1 – The index value for the representative mobile basket is below the 25th percentile in all economies, below 42 – The index value for the handset price is below the 25th percentile in all economies, below 71 – ICT Regulatory index is below 62
Integration	<ul style="list-style-type: none"> – Large digital economy: ICT Development Index is above 7 – Banking Inclusion World Leader - Percent of adult population with financial account above 86% – E-government index is above 0.72 and population with ID is above 98% – Mobile app index is above 81, and Mobile app in first language index is above 85 – B2C e-commerce index is above 79, and Exports are above 30% of GDP 	<ul style="list-style-type: none"> – Average-sized digital economy: ICT Development Index is between 5 and 7 – Percent of adult population with financial account is between 59 and 86% – E-government index is between 0.56 and 0.72 and population with ID is between 89% and 98% – Mobile app index is between 68 and 81, and Mobile app in first language index is between 72 and 85 – B2C e-commerce is between 53 and 79 and Exports are between 20% and 30% of GDP 	<ul style="list-style-type: none"> – Scope and dynamism of the digital economy is minimal: ICT Development Index is between 3 and 5 – Banking Inclusion Laggard - Percent of adult population with financial account is between 40 and 59% – E-government index is between 0.37 and 0.56 and population with ID is between 73% and 89% – Mobile app index is between 51 and 68, and Mobile app in first language index is between 46 and 72 – B2C e-commerce is between 34 and 53, and Exports are between 10% and 20% of GDP 	<ul style="list-style-type: none"> – No/minimal Digital Economy: ICT Development Index is below 3 – Lowest Inclusion Performer - Percent of population with financial account below 40% – E-government index is below 0.37 and population with ID is below 73% – Mobile app index is below 51, and Mobile app in first language index is below 46 – B2C e-commerce is below 34, and Exports below 10% of GDP

The market component rating is based on the current market stage and movement along the market typologies. For each relevant market outcome, the individual market creation assessment will identify where the magnitude of the movement falls in the movement spectrum and will support one of the following movement options: “Marginal”, “Meaningful”, “Significant” or “Highly Significant”. In general, most individual projects are not expected to make a significant and immediate systemic market change, unless the project is a pioneer in a non-existent or nascent market. Instead, most projects are expected to have incremental effects on the market. In other words, it takes more than one intervention to move a market to the next stage. This means that integrated and concerted efforts are often needed to generate substantial market effects. For example, cumulative World Bank Group efforts over time will have a stronger effect on markets than non-integrated and non-concerted interventions. Where a project is explicitly part of a programmatic approach, the expected movement induced by the program should be the basis for the assessment where timebound movements, market effects, and indicators are available. Examples of market movements include:

MARKET MOVEMENT	Marginal	Meaningful	Significant	Highly Significant
Competitiveness	– Improved competitiveness may be achieved by: increasing competition in the telecom market delivering open infrastructure models or reducing market concentration; delivering technology innovation across the market; propagating higher affordability across the market; and improving regulatory framework and practices.			
Integration	– Improved integration may be achieved by: providing the necessary digital platform for the expansion of the digital economy and strengthening domestic and international links.			

The market likelihood adjustment follows the principles for the likelihood adjustment for project outcome potential. In general, the likelihood assessment includes sector-specific, as well as broad country risks that may prevent potential catalytic effects from occurring, plus political economy or policy/regulatory risks that may constrain market systemic change. Due to the diversity of market creation attributes and channels, most of the likelihood factors are expected to be sector, or intervention specific.

MARKET LIKELIHOOD	Sector Factors	Political / Regulatory / Policy Factors
Assessment Considerations	<ul style="list-style-type: none"> • Sector-specific regulation • Barriers to the entry in the sector • Sector investment trends and outlook • WBG program on regulatory capacity building 	<ul style="list-style-type: none"> • Government capacity and support to implement policies and program commitments in the wider digital space • Capacity of the wider market to absorb the expansion of telecoms and digital services • Trade and barriers to entry in sectors that can be enabled by the digital infrastructure