Infrastructure Sharing -Towers & Poles (Co-location Access Charge-Benchmarking Study)

Towards the Development of Global Best Practices

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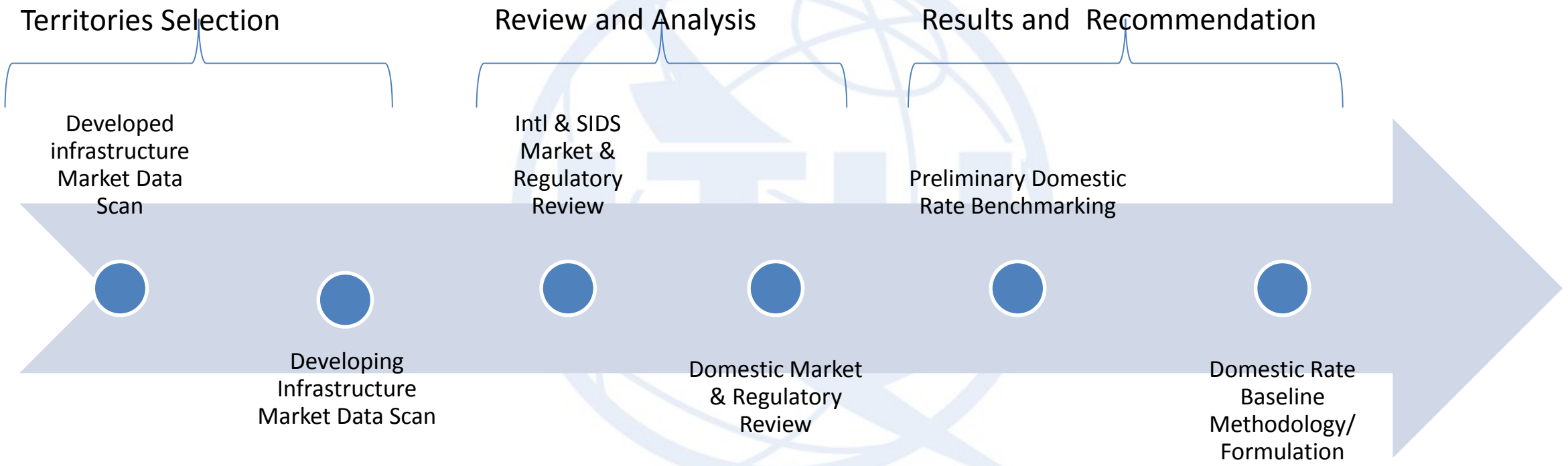
Objective

To identify an appropriate co-location access rate formula that may be applied to the Tower and/ Pole Infrastructure Markets in Trinidad and Tobago.

Methodology



Rationale

Legal

- Telecommunications Act Sections 26(1) , 26(4),
- Access to Facilities Regulations Sections 4(h), 18(1)

- Strategic
  - Increase new market entrant(s)
  - Lower service expansion cost
  - Lower consumer service prices
  - Reduced environmental damages

Country Selection

Geo-Economic & ICT Indicators Comparison

Country	Population Density	GDP per capita	Fixed Broadband subs	Mobile cellular subs
Units	**People/ sq km**	**US$**	**per 100**	**per 100**
Brazil	24.7	5880.6	11.7	139
Canada	3.9	38255.3	35.4	81
India	435.7	1233.9	1.2	74.5
Malaysia	91	7365.2	10.1	148.8
New Zealand	17.1	29626.6	31	112.1
OECS avg	225.64	8413.14	17.38	118.2
UK	266.9	41458.3	37.4	123.6
USA	34.9	52117.7	31.1	110.2
Trinidad & Tobago	**264**	**14369**	**17.6**	**147.3**

SOURCE: WORLD BANK DEVELOPMENTAL DATABASE, 2014

Market Structure & Regulation Comparison (Tower)

Country/Regulator	Tower Market	Regulatory Remit	Regulatory Enforcement Practice
USA/FCC	Competitive	Quantitative Ex-post possible	Forbear
Malaysia / SKMM	Competitive	Quantitative Ex-post possible	Forbear
UK/ OFCOM	Oligopoly	Quantitative Ex-ante possible	Forbear
India / TRAI	Competitive	Qualitative only	No remit
OECS/ ECTEL	Oligopoly	Quantitative Ex-post possible	In dispute only
New Zealand/ NZCC	Oligopoly	Qualitative only	No remit
Brazil/ ANATEL	Competitive	Quantitative Ex-post possible	In dispute only

Market Structure & Regulation Comparison (Pole)

Country	Pole Market Structure	Co-location Rate Regulatory Remit	Regulatory Enforcement Practice
USA	Competitive	Quantitative Ex-ante possible	Ex-ante Enforced
Malaysia	Competitive	Quantitative Ex-post possible	Forbear
UK	Oligopoly	Quantitative Ex-ante possible	Forbear
India	Competitive	Qualitative only	No remit
OECS	Oligopoly	Quantitative Ex-post possible	In dispute only
Canada	Competitive	Quantitative ex-ante possible	In dispute
Trinidad and Tobago*	Oligopoly	Quantitative ex-ante possible	Forbear

Rates & Rate Methodologies Benchmarking Study Results

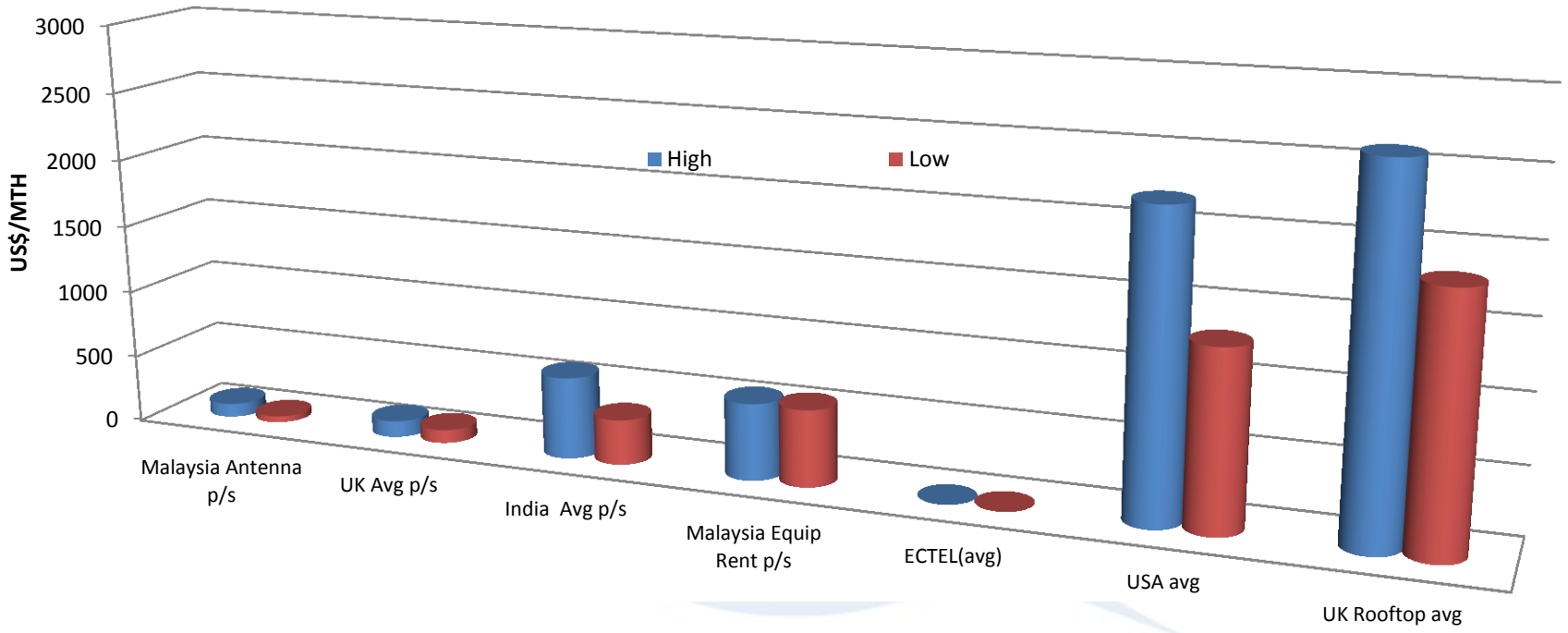
Co-location Access Methodologies (Towers & Poles)

Regulator	Market	Rate Principle
USA	All Pole Sharers	Space Factor* Cost
USA	Towers	None Held
Malaysia	Tower/Pole Company	Installation + Access to Common
Malaysia	Tower or Pole Integrated Operator	Marginal cost
UK	All network infrastructure	VULA margin (Rate of return/ margin squeeze)
India	Passive Infrastructure	None held
OECS	Tower & Poles	Annual Cost/# sharers
New Zealand	Towers	None held
Brazil	Towers	x% lowest market rate
Canada	Pole	Fully Allocated Cost
Trinidad & Tobago	Towers	Fully allocated cost/ # attachments (preliminary consideration)
Trinidad & Tobago	Pole	Fully allocated cost/ # attachments (preliminary consideration)

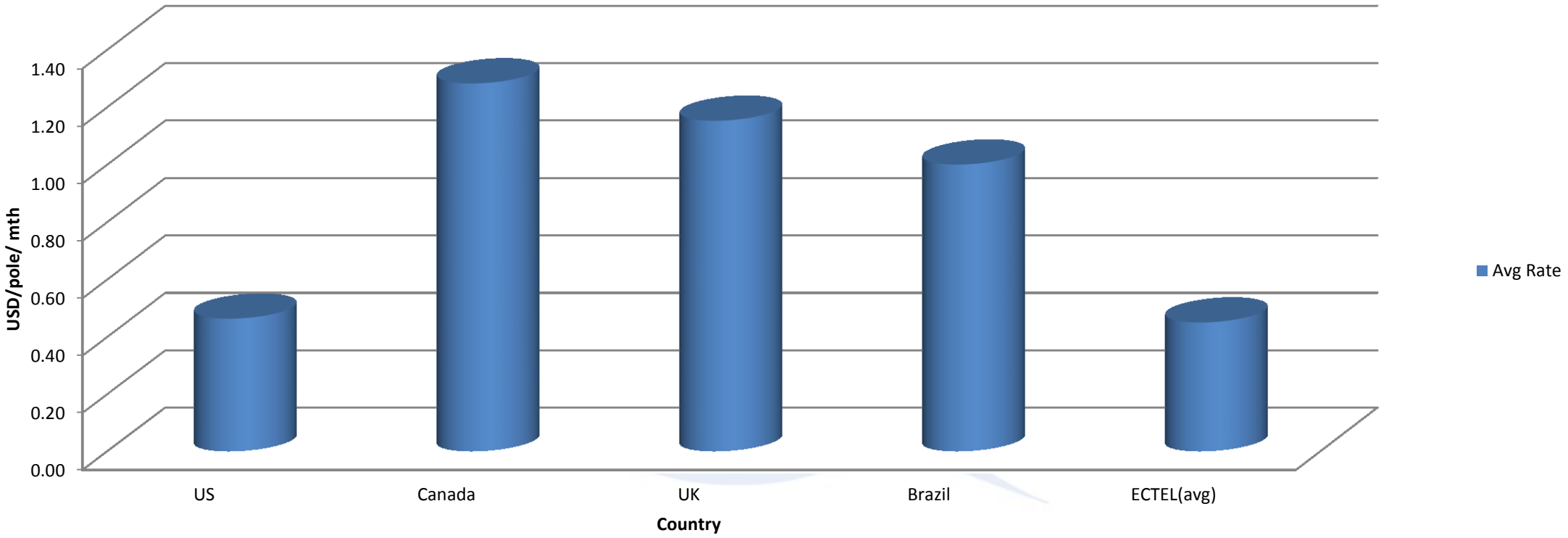
Detailed Methodologies

Regulator	Market	Rate Principle	Detail Rate Formula
USA	All Pole Sharers	Space Factor* Cost	Rural/urban parameter* net cost of bare pole * carrying charge) * SF SF= [Space Occupied + ($\frac{2}{3}$ * share of unusable space] / Pole Height
Malaysia	Tower/Pole Company	Installation + Access to Common	Capital cost (includes common cost and WACC mark-up)/per antenna + operational cost associated with shared facility
Malaysia	Tower or Pole Integrated Operator	Marginal cost	operational cost associated with shared facility
UK	All network infrastructure	VULA margin (Rate of return/ margin squeeze)	(P-W+DC) > (UC-UR). On-going margin must exceed upfront costs
India	Passive Infrastructure	None held	Settled by operators
OECS	Tower & Poles	Annual Cost/# sharers	(Site rental+ operational cost + depreciation + cost of capital)/ number of shares
New Zealand	Towers	None held	Settled by operators
Brazil	Towers	x% lowest market rate	Undisclosed % of the lowest prevailing market rate
Canada	Pole	Fully Allocated Cost	1. Common cost / # user 2. Stand alone cost – joint cost savings 3. Joint cost * stand alone cost %
Trinidad & Tobago	Towers	Fully Allocated cost	[(Annual cost/ number of attachments)+ make ready *]/12
Trinidad & Tobago	Pole	Fully Allocated cost	[(Annual cost/ number of attachments)+ make ready *]/12

Tower Co-location Rates Observed



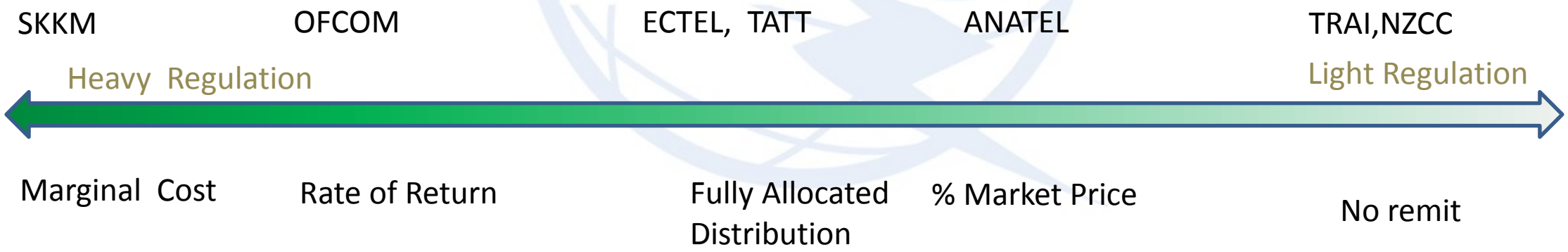
Pole Co-location Rates Observed



Preliminary Baseline Methodology

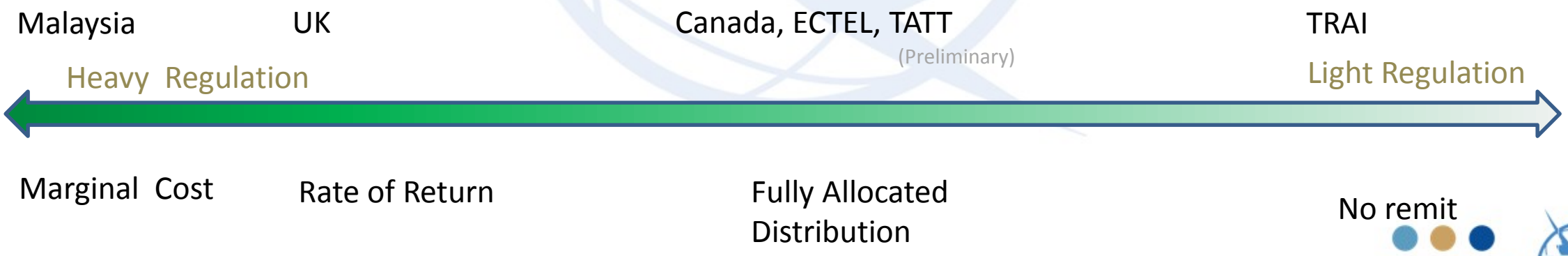
Tower Baseline Methodology

- Equation T1.0 Monthly Rate = {(Annual Cost / number of attachments) +

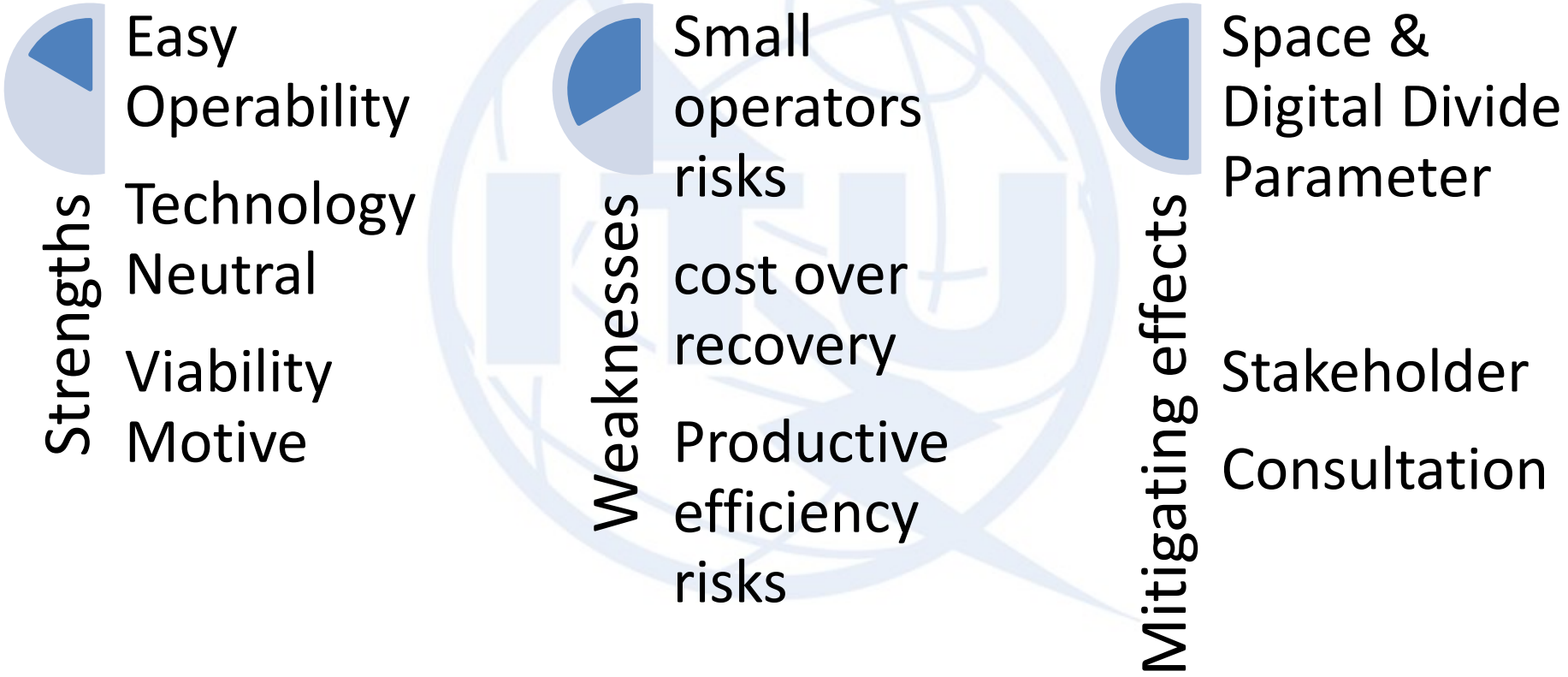


Pole Baseline Methodology

- Equation T1.0 Monthly Rate = {(Annual Cost/number of attachments) +



Methodology Evaluation



Co-location Access Non-Price Considerations

Other impediments to the co-location process

- make ready cost
- administrative delays
- Quality of Service (QoS) risks

Other elements of co-location framework

- Payment principles / Invoicing
- Penalties for non-compliance
- Treating with network upgrades

Next Steps

1. Expand domestic stakeholders consultation.
2. Increase regional jurisdictions participation.
3. Expand the overall sample size of the study.
4. Update the results of the study.
5. Draft the Guidelines and Best Practices for Co-location Access Charge for discussion at SG3 .
6. Submit the finalized Guidelines and Best Practices for Co-location Access Charge for adoption by the ITU.


ITU