

Terms of Reference (TOR)
on
Consultancy Services for the Cost
Benefit and Feasibility Analysis of
Implementing Mobile Number
Portability in Telecommunication
Services in Bhutan



འབྲུག་འཛམ་རྒྱལ་གྱི་གནས་ཚུན་གྲོགས་འབྲེལ་དང་གསལ་བསྐྱོད་འཕུལ་གྲུབ་ལྷན་ཁག་།
Bhutan InfoComm and Media Authority
Royal Government of Bhutan

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1. Background

The Bhutan InfoComm and Media Authority (BICMA) is the national regulatory authority responsible for the regulation of telecommunications, radiocommunications, internet services, and related ICT services in the Kingdom of Bhutan.

Bhutan's mobile telecommunications market is competitive, currently served by two licensed operators: Bhutan Telecom Limited (BTL) and Tashi InfoComm Pvt. Ltd (TIPL). As the sector evolves, there is increasing interest in enhancing consumer choice, promoting effective competition, improving service quality, and reducing barriers to switching service providers.

Mobile Number Portability (MNP) is a telecommunications service that allows subscribers to retain their mobile telephone numbers when changing from one mobile service provider to another. MNP has been implemented in many countries as a pro-competition measure to facilitate customer mobility and improve market efficiency. Besides the competition, the MNP also has a social and economic value to the users.

Before considering any regulatory decision regarding the introduction of MNP in Bhutan, BICMA intends to undertake a comprehensive feasibility study and Regulatory Impact Assessment (RIA) to determine whether MNP is required at this time, technically feasible, economically viable, beneficial to consumers, and proportionate to the size and characteristics of Bhutan's telecommunications market.

In continuation, the BICMA also required the Guidelines/Rules and Regulations for implementing MNP in Bhutan before the introduction of MNP in Bhutan.

In this regard, the BICMA is seeking services from the relevant consultancy services to undertake the detailed and comprehensive feasibility study and cost benefit analysis on the implementation of MNP in Bhutan.

2. Objectives

The overall objective of this consultancy study is to assess the need of MNP in Bhutan, its feasibility, technical assessments, costs, benefits, impacts, suitable MNP model and implementation requirements of MNP in Bhutan and provide evidence-based recommendations to BICMA regarding whether MNP should be introduced and when.

The specific objectives of the study include but not limited to:

- a. Evaluate the current state of competition in the Bhutanese mobile market, including subscriber churn rates, market share dynamics, and barriers to switching.
- b. Conduct the surveys and studies on the consumer demand for MNP from consumers and the likely adoption of MNP service by the consumers.
- c. Carryout the comprehensive study on the operator's existing networks, technical readiness and system feasibility of the mobile operators in Bhutan.

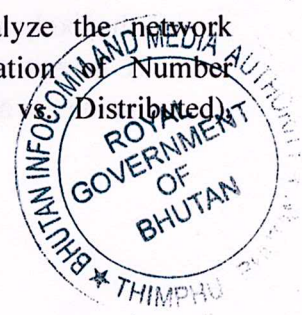


- d. Carryout the comprehensive assessment on the cost-benefit analysis, economic and financial implications of MNP implementation to the mobile operators and stakeholders.
- e. Carryout the study on how the MNP implementation has been done in other countries especially the regions, analyze the MNP implementation models, successes, and challenges from other countries, with a particular focus on small-population, mountainous, and geographically challenging nations, as well as South Asian and Asia-Pacific regions.
- f. Identifying regulatory, legal and operational requirements for MNP implementation.
- g. Conducting a Regulatory Impact Assessment (RIA). Undertake a comprehensive RIA to assess the potential impacts of MNP on competition, investment, consumer welfare, and the broader economy.
- h. Identify and analyze potential technical, operational, financial, and regulatory challenges to MNP implementation in Bhutan and propose mitigation strategies.
- i. Formulate clear recommendations on whether MNP should be implemented and, also provide a detailed implementation roadmap, a suitable technical model, and a robust regulatory framework/guidelines.

3. Scope of Work

The scope of work for the consultancy shall encompass, but not be limited to, the following tasks:

- a. Review relevant legislation, regulations, licences and numbering policies of Bhutan and other countries and draw out the relation with the MNP implementation,
- b. Evaluation and assessment of current state of competition in mobile market, telecom market assessment, churn rates, competitive dynamics, existing switching barriers faced by customers etc.
- c. Assess current numbering resources and numbering plan management.
- d. Design and conduct statistically significant consumer surveys and study the demand for MNP services and its probability adoption assessment by the customers over 5 years.
- e. Undertake a comparative analysis of countries that have implemented MNP, particularly a country of similar nature to Bhutan with small population countries, developing countries, mountainous and geographically challenging countries, and also South Asian and Asia-Pacific markets. Analyze the success factors, challenges, and best practices from selected countries in South Asia and the Asia-Pacific region.
- f. Conduct a detailed technical feasibility assessment including the assessment of technical readiness of all licensed mobile operators, review of network architecture and interconnection arrangements, core networks, billing systems, evaluation of numbering database requirements, assess routing options and signalling impacts.
- g. The technical feasibility shall also include the review and analyze the network architecture and interconnection arrangements, including: evaluation of Number Portability (NP) Database architecture options (e.g., Centralized vs. Distributed).



Assessment of routing options and signaling impacts (e.g., All Call Query (ACQ) vs. Query on Release (QoR), implications for Service Control Point (SCP) and Signaling System No. 7 (SS7) and SIP signaling, assessment of the need for a centralized reference database to provide number portability information, and assess with existing telecom networks and Recommend the most suitable MNP architecture and technical model for Bhutan.

- h. Carrying-out the comprehensive assessment on the economic and financial implications of MNP implementation to the mobile operators and stakeholders including the estimated Capital Expenditure (CAPEX) for all stakeholders (e.g., network upgrades, database implementation, network and IT system modifications),
- i. estimated Operating Expenditure (OPEX) for all stakeholders, estimated implementation and operational costs,
- j. And conduct a cost-benefit analysis over a minimum period of 5 years, taking also into account consumer benefits, impact on operators, impact on competition, affordability and sustainability.
- k. Undertake a comprehensive regulatory impact assessment to assess the potential economic, social, and environmental impacts of MNP.
- l. Develop a detailed regulatory instrument/guidelines/framework to govern the MNP service in Bhutan.
- m. Develop the detailed implementation strategy including a phased timeline, technical model along with estimated implementation budget, risk mitigation measures, monitoring and evaluation framework.
- n. Conduct a comprehensive training for BICMA officials for a minimum period of 3 working days, and the training should cover all aspects of the study, the proposed MNP model, the regulatory framework, and operational procedures.

4. Methodology/Nature of Work

The consultant shall adopt a participatory, rigorous, and data-driven methodology. The work shall involve, but not be limited to, the following:

- a. Extensive surveys and consultation with all relevant stakeholders, including licensed mobile operators, consumer groups, the government, and other industry experts and users. A comprehensive list of stakeholders to be consulted must be submitted in the inception report.
- b. Exploring technical and costs related informations,
- c. Data Collection: Collection and analysis of quantitative and qualitative data from both primary (surveys, interviews) and secondary (operators' reports, international databases, regulatory documents) sources.
- d. Researches, planning and review of documents, international rules and regulations, best practices,
- e. Technical studies, assessments, implementation costs estimations and verification,



- f. Economic analysis, technical analysis, legal analysis,
- g. Reporting and Presentations: Regular progress reporting and formal presentations of findings, preliminary results, and draft reports for stakeholder validation and feedback.
- h. Development of regulatory strategies and the rules and regulations/guidelines,

5. Deliverables

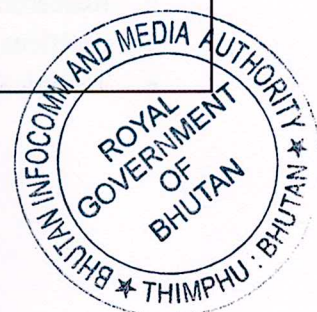
The following deliverables shall be included but not limited to;

- a. Comprehensive Assessment report and recommendations on the feasibility of implementing the Mobile Number Portability in Telecommunications services in Bhutan.
- b. Report on suitable MNP architecture and model for implementation in Bhutan based on the feasibility study study.
- c. Implementation strategy document on how Bhutan should implement the Mobile Number Portability services in Bhutan.
- d. A regulatory instrument/guidelines/framework/Rules and Regulations for the Mobile Number Portability services in Bhutan.
- e. Virtual capacity building training to officials of BICMA for a minimum period of three working days (by the International Expert). The consultant is expected to ensure that skills and knowledge are effectively transferred through training sessions, workshops, enabling the Authority's staff to independently understand and process after the consultancy period.

6. Duration and Deadlines

The duration of the assignment from the date of award is 120 days (four months) and in particular the following process and activities are required to be completed accordingly;

Sl. No	Deliverables	Duration	Remarks
1.	a. Inception Report	10 days from the date of signing of contract	The inception report shall contain all the work description, work flows, approaches, plans, data collection tools and questionnaires to complete the deliverables
2.	a. Submission and presentation of 1st draft report on the feasibility of MNP implementation	45 days from the date of signing of contract	1st draft Feasibility report



	in Bhutan		
3.	a. Submission and presentation of 2nd draft report on the feasibility of MNP implementation in Bhutan	65 days from the date of signing of contract	2nd draft Feasibility report
4.	a. Submission and presentation of implementation strategy document on how Bhutan should implement the Mobile Number Portability services in Bhutan.	80 days from the date of signing the contract	1st draft Strategy document. The strategy document should also contain proposed MNP architecture and model for implementation in Bhutan based on the feasibility study study.
5.	a. Submission and presentation of 3rd draft report on the feasibility of MNP implementation in Bhutan. b. Submission and presentation of regulatory instrument/guidelines/framework/Rules and Regulations/standards for the Mobile Number Portability services in Bhutan.	100 days from the date of signing the contract	a. 3rd draft report on the feasibility of MNP implementation in Bhutan & b. 1st draft Regulatory instrument/guidelines/rules. The regulatory framework should contain clear rules and regulations and standards on how to govern and

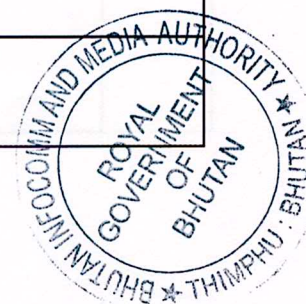


			regulate the MNP implementation in Bhutan.
6.	a. Submission and presentation of final draft report on the feasibility of MNP implementation in Bhutan. b. Submission and presentation of Final draft Strategy document. c. Submission and presentation of Final Regulatory instrument/guidelines/rules. d. Training to the BICMA officials	120 days from the date of signing the contract	a. Final draft on the feasibility of MNP implementation in Bhutan. b. Final draft Strategy document. c. Final Regulatory instrument/guidelines/rules. d. Training

7. Minimum Mandatory Eligibility Requirements

The bidders shall fulfill the following mandatory requirements and submit to be eligible for the evaluation of bids. The bidders not fulfilling these mandatory requirements will result in automatic disqualification.

Sl No	Mandatory Requirement	
1.	Valid Trade license for the local lead firm	Required
2.	Valid Tax Clearance Certificate	Required
3.	Mandatory Partnership with International Expert/Firm:	Required



	The local firm shall partner with international firms or international expert(s) registered legally. The international expert(s) must have a proven track record in MNP and or telecommunications regulatory/operational studies in other countries.	The evidence of agreement or any document of authorisation from international company/experts shall be provided confirming their commitment to the project and their role in the delivery of the consultancy.
4.	The local firm must be registered in Bhutan and have a minimum of 2 years of experience in IT infrastructure, telecommunications networks, or telecom-related consultancy.	Required Submit evidence of similar work experience (e.g., related consultancy works, project completion evidence, certificates, client references etc).
5.	Technical Resources and Materials: The bid must include international key experts. The international expert, who will be part of the team, must possess a minimum of a Bachelor's Degree in Telecommunications Engineering, ICT, or a related field telecommunications regulatory subjects.	Required Submit signed CVs of all proposed experts (international and local) supported by copies of relevant academic and professional certificates. And the CVs should be supported with evident certificates.

8. Submission of Technical Proposals

- a. The bidder is required to examine in detail the documents required for the submission.
- b. The technical proposal must be comprehensive and include, but not be limited to, the following components;;
 - i. Technical proposal submission letter/form,
 - ii. Local consultant's organization and experience, and similar works carried out
 - iii. International consultant's details and international consultant's organisation details and experience,
 - iv. Comments or suggestions on the Terms of Reference
 - v. A clear and concise understanding of the assignment, description of the understanding on the assignment subject, the approach to be undertaken, methodology to adopt for assignment, work plans,



- vi. CVs, qualifications, and relevant achievements of all proposed experts (local and international), along with a clear team composition and organizational chart.
- vii. Evidence of a similar nature of work carried out by the company and the experts.
- viii. Work Schedule and Planning for Deliverables
- ix. Any additional document Bidder intends to submit in aligning with the evaluation criteria.

9. Submission of Financial Proposal

A bidder shall submit the financial quote based on the following format:

Sl. No	Breakdown of assignment	Cost in Ngultrum	Remarks
1.	Study and assignment execution		
2.	Capacity Building/Training Component for BICMA Officials		
3.	Total		

10. Opening and Evaluation of Bids

The Tender Opening Committee will open the bids and the Tender Evaluation Committee shall evaluate the bids.

a. Mandatory Eligibility Requirement:

Non compliance to the minimum mandatory eligibility requirements mentioned above will be treated as non responsive and the bid shall not be considered for further technical and financial evaluation.

b. Clarification on Bid:

To assist in the examination, evaluation and comparison of bids, the Purchaser may at its discretion, ask the Bidder for clarification of its bid. The request for clarification and the response shall be in writing in eGP and no change in price or substance of the bid shall be sought, offered or permitted. The bidders who fulfilled mandatory requirements and then the technical requirements will only be financially evaluated.

c. Preliminary Examination:

The Purchaser will examine the bids to determine whether they are complete, whether any computational errors have been made, whether the documents have been properly signed, and



whether the bids are generally in order. Prior to the detailed evaluation, the Purchaser will determine the substantial responsiveness of each bid. For purposes of these clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bid without material deviations. A bid determined as not substantially responsive will be rejected by the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

11. Evaluation Criteria:

(i) Minimum Mandatory requirements

The mandatory eligibility requirements will be evaluated and only the bidders fulfilling the mandatory requirements will be proceeded for technical evaluation. The bidders not fulfilling these mandatory requirements will not be evaluated.

(ii) Technical Evaluation

The bid fulfilling the **mandatory requirements** will be considered for technical evaluation. The bidder should submit the technical proposal. The technical evaluation will be done as per the required technical criteria and a minimum score of 70% will have to be scored. The technical proposal scoring less than 70% shall be considered technically non-responsive. The bid will be considered for the next evaluation which is financial evaluation only if the technical score is greater than 70%. The technical proposal will be evaluated on the basis of the quality of the technical proposal and the criteria for technical evaluation is given in the table below;

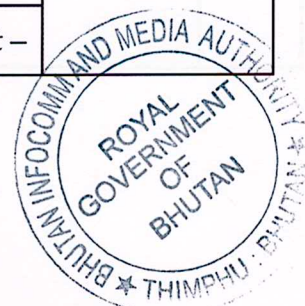
Sl No	Documents Requirements and Criteria		Total Points
1.	Consultant Organisation and Experience (Specific Experience of the Local entity relevant to the assignment)	- Bidders must be a Bhutanese firm or company with at least 2 years of active experience in telecommunications consultancy works and having undertaken less than or equal to 2 of similar telecommunications study (2+2 points) - Bidders must be a Bhutanese firm or company with at least 2 years of active experience in telecommunications consultancy works and having undertaken 3 to 4 of similar telecommunications study (2+5 points) - Bidders must be a Bhutanese firm or company	Max: 10



		with at least 2 years of active experience in telecommunications consultancy works and having undertaken more than 4 of similar telecommunications studies (2+8 points)	
2.	Comments on the Terms of Reference	Provide comments on the Terms of Reference and any innovative proposals apart from the Terms of Reference that can be proposed.	Max: 3
3.	Description of Understanding of Assignment, Approach, Methodology, and Work Plan in Responding to the Terms of Reference (Understanding of Assignment and the Technical Approach and methodology)	Understanding of the Assignment and Subject – 15 Points • Understanding of Mobile Number Portability (MNP), its objectives, operating principles, benefits and challenges. Understanding of the relevance, applicability and implications of MNP in the context of Bhutan, including the existing mobile market, operators, numbering arrangements, regulatory environment and stakeholder considerations – 4 points; • Understanding of the technical requirements for implementing MNP, including portability databases, routing, signalling, operator network integration, interfaces, security, redundancy and other relevant technical components – 6 points; • Understanding of the regulatory, institutional and governance requirements for implementation of MNP in Bhutan – 3 points; and • Quality of the preliminary assessment/research on MNP and its relevance to Bhutan, including use of relevant international experience, standards and best practices – 2 points. Technical Approach – 15 Points • Clarity, comprehensiveness and suitability of the overall technical approach to achieving the objectives of the assignment – 4 points;	Max: 55



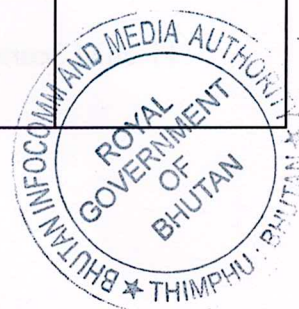
		• Proposed MNP technical architecture and implementation approach, including justification of the proposed solution and consideration of alternative approaches – 4 points; • Approach for assessing existing infrastructure, systems and capabilities of relevant stakeholders and identifying technical gaps and requirements – 3 points; • Application of relevant international standards, benchmarks, country experiences and best practices to the Bhutanese context – 2 points; and • Identification of technical and implementation risks and proposed mitigation measures – 2 points.	
		Methodology for Implementation – 15 Points • Methodology for stakeholder identification, consultation, interviews, workshops and validation – 3 points; • Methodology for data collection, validation, assessment of existing systems and infrastructure, and gap analysis – 3 points; • Methodology for assessing alternative MNP implementation models and developing evidence-based recommendations, including consideration of technical, regulatory, operational, financial and sustainability factors – 3 points; • Methodology for testing, pilot implementation, operator integration, interoperability, security, performance, user acceptance, migration and eventual implementation – 3 points; and • Quality assurance, review, validation and incorporation of stakeholder feedback into the assignment outputs – 3 points.	
		Plan and Details of Execution of the Assignment –	



		10 Points • Completeness and logical breakdown of activities and tasks required to fulfil the TOR and deliver the expected outputs – 2 points; • Realism and appropriateness of the proposed timeline, sequencing, dependencies and milestones – 2 points; • Clear linkage between activities, milestones and expected deliverables/outputs – 4 points; and • Overall practicality and feasibility of the execution plan, including consideration of stakeholder dependencies, potential delays, implementation risks and contingency measures – 2 points. Proposals shall be assessed based on the depth, relevance, technical soundness, Bhutan-specific analysis, practicality and completeness demonstrated. Merely repeating or reproducing the TOR, objectives, scope or deliverables shall not be considered sufficient evidence of understanding and shall not merit a high score.	
4.	Curriculum Vitae (CV) for Partner International Consultant (Specific Experience of the International Expert/Company which the Local entity has partnered with)	• The experts should have a minimum of a Bachelor's Degree in Telecommunication /ICT field/Related and have a strong track record of working with telecom regulators, telecom operators and government agencies. And have at least 2 years of active experience in telecommunications consultancy works and having undertaken less than or equal to 2 of similar telecommunications study (3+5 points) • The experts should have a minimum of a Bachelor's Degree in Telecommunication /ICT field and have a strong track record of working with telecom regulators, telecom operators and government agencies. And have at least 2 years	Max: 25



		of active experience in telecommunications consultancy works and having undertaken 3 to 4 of similar telecommunications study (3+10 points) • The experts should have a minimum of a Bachelor's Degree in Telecommunication /ICT field and have a strong track record of working with telecom regulators, telecom operators and government agencies. And have at least 2 years of active experience in telecommunications consultancy works and having undertaken more than 4 of similar telecommunications study (3+15 points) • If the expert or a company have infact implemented or provided a strategic execution plan to implement the MNP in the region or globe, additional 7 points will be provided. (+ additional 7 points).	
5.	Team Composition, Assignment, and Key Experts' inputs (Key professional staff qualification and competences for the assignment) a) Team Leader b) [insert position or	The qualifications and experience of teams will be evaluated and the scores will be awarded based on the relevancy of the capabilities and team compositions.	Max: 7



	discipline as appropriate]		
	c) [insert position or discipline as appropriate]		
	d) [insert position or discipline as appropriate]		
	Total		100

(iii) Financial Evaluation

The bids fulfilling the technical evaluation (**scoring a minimum of 70**) will only be financially evaluated.

The formula for determining the financial scores is the following;

$S_f = 100 \times F_m/F$, in which S_f is the financial score, F_m is the lowest price and F the price of the proposal under consideration.

(iv) Final Score after Combined Technical and Financial score

The final score of the bid will be based on the combined score of technical and financial score and the weights given to the Technical and Financial Proposals are:

Technical score (T) = 0.80 which is 80% of the score of technical score, and

Financial Score (P) = 0.20 which is 20% of the score of the financial score.



Note: If the financial quote of the bid which has scored the highest score after combining the technical score and financial score, has quoted higher than the available budget, negotiation will be carried out and if the negotiation fails, the bid will be awarded to the second lowest total score. The similar will be carried out if the case is same with the second lowest total score.

12. Mode of Payment

The 100% payment shall be made only on completion of the whole consultancy assignment and deliverables.

13. Confidentiality

The Consultant will protect the confidentiality of the data received from BICMA, mobile operators, and other stakeholders. To carry out this work, and sign a Non-Disclosure Agreement (NDA) with the concerned party or industries while dealing with the sensitive data. No data or deliverables from these assignments will be released to third parties without the prior written approval of the Authority and the concerned industries.

14. Reporting and Accountability

The consultant shall directly liaise with the Spectrum and Technology Division of the Authority to ensure that work is completed as per the objective and schedule. The selected bidder shall submit regular progress reports on the status of the consultancy service delivery, training, and technical support.

15. Roles and Responsibilities:

Consultancy firm responsibilities:

- The firm shall carry out the tasks and specific activities outlined in this TOR to deliver the specific expected output professionally and responsibly.
- Abide by all provisions of Procurement Rules and Regulations of Bhutan.

The Authority's responsibilities:

- The Authority shall pay only to the winning contractor the fee and all other costs outlined in the contract upon submission and acceptance of all the final performed work by the Authority.
- Enable the Consultancy to execute his tasks as per the agreed work-plan.

16. Termination of Work

The contract shall be terminated if the selected consultant breaches ToR, any of the terms and conditions stipulated under the contract, and the Procurement Rules and Regulations of Bhutan.



17. Performance Security

Performance security of the contract shall be as per the eGP format and Procurement Rules and Regulations of Bhutan. In case of any dispute, it shall be dealt as per the dispute resolution clause prescribed in the Procurement Rules and Regulations 2025.

18. Bid Security

The bidder shall provide/submit the bid security as mentioned in the eGP. Any defaulting bidders shall be served with a notice to deposit the stated amount in Bid Securing Declaration within 5 days which the bidder shall be debarred (across all Government Agencies) for a period of one year. The Authority will immediately go to the next bidder, once the notice is served to the defaulting bidder. Without the bid security, the bid will be considered unresponsive.

19. Tax Deducted at Source (TDS)

The TDS shall be deducted as per the Procurement Rules and Regulations of Bhutan during the payment.

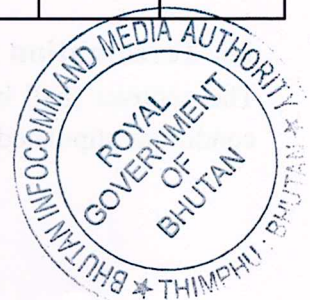
20. Award Letter and Contract Signing

- a. If required, negotiations shall be conducted with the firms based on ranking of the procurement.
- b. Standstill period shall observe from the date of issuance of the letter of intent to award to allow the bidders to lodge complaints if aggrieved by the decision of the tender committee.

21. Tentative Time frame for the Completion

Consultancy work should be completed within four months from the date of award of work. The tentative timeline for this consultancy work is as follows:

Activities	Sep 2026	Oct 2026	Nov 2026	Dec 2026	Jan 2027	Feb 2027	Mar 2027	April 2027
Float tender								
Opening, Evaluation and Awarding of work								



Commencement of Consultancy work activities								
Submission of all deliverables reports								
Payment								

