**Introduction:** This study aims at analyzing the ICT regulatory framework of seven countries namely USA, UK, Australia, Japan, Brazil, Malaysia and Pakistan. The study highlights the diversity and similarity in institutional frameworks across the countries with reference to two important aspects (1) Institutional Framework and (2) Autonomy to the Regulator. Over the years, telecom industry in India has witnessed numerous irregularities in policy formation & implementation leading industry leaders and investors to opine that the telecom sector is no longer an attractive option for investment. And so, there is need for a developing country like India to study the evolved regulatory systems of developed countries and those of some developing countries that have shown greater transparency & predictability in spite of having liberalized during the same time period and having similar culture and political set-up as compared to India. This paper aims to bring out the key learning regarding the regulatory systems from both the developed as well as the developing countries.

**SUMMARY OF FINDINGS/RECOMMENDATIONS**

1. **Clear role definitions (CRD), Competition regulator (CR), and Ombudsman (O) are the necessary pre-conditions for a developing country to have an effective regulatory system.**

2. **Combination of variables such as Contribution/Participation by stakeholders in the rule making, (CST), Diverse Profile of Chairmen of Regulator (DPC), Competition Regulator (CR), Ombudsman (O), Autonomy for recruitment (FHR), Capacity building (CB) and Single Ministry for Telecom & Broadcasting (SM) found in developed countries such as USA, UK & Australia.**

3. **Financial Autonomy:** In all the countries except Japan, the regulator is funded through a fund administered by the Parliament.

4. **Protection of investor from opportunistic behaviour of politicians:** To protect investors from such opportunistic behaviour of the Government in power, in U.K. it is mandatory to have consent (1) Consent of the telecom operator (2) Consent of the court and (3) Consent of the Competition Regulator before the license conditions are altered.

5. **Minutes of the meetings to made public:** Although it is mandatory for the regulator in all the countries to record the minutes of the meeting, in US, UK and Brazil it is mandatory for the regulator to make the minutes public.

6. **Lack of competent human resource:** Countries that were ruled by other countries show lack of competent human resources as the research activities & planning were done in the ruling country. Hence, the lack of local academic institutions.
Selection of countries:
The criteria for selection of the countries are as follows:
**US, UK & Australia**: Offer practices followed by the oldest established regulators in ICT Regulation
**Japan**: Offer lessons in regulating the sector without the presence of a telecom specific sector regulator.
**Brazil, Pakistan**: Developing countries with high level of regulatory transparency but low level of political transparency.
**Malaysia**: High level of regulatory transparency combined with high level of political transparency and efficient separation of policy formulation & policy implementation.

**Research Methodology**: The research methodology used is Qualitative Comparative Analysis (QCA) of seven countries. The study is based on literature review of research papers, secondary research & documents published by the regulators of the above-mentioned countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>Variable</th>
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**Abbreviations:**
- CRD- Clear role definitions
- CST- Contribution of stakeholders
- DPC-Diverse profile of chairman of regulator, CR-Competition regulator
- O-Ombudsman/ Consumer Protection
- FA- Financial Autonomy
- FHR-Freedom in terms of HR
- CB-Capacity Building
- SR-Self-Regulation
- SM-Single Ministry for Telecom & Broadcasting

From the above table, it can be easily observed that CRD, CR and O are necessary pre-conditions for an effective regulatory environment.

**Effective Regulatory Environment** is defined as one in which the regulator is structurally, financially and functionally independent so as to enable it to gain credibility, have the authority in order to enact and enforce the decisions that are based on transparent, accountable and predictable regulatory procedures.

**Discussion**
1. It is found that CRD, CR, and Ombudsman or effective consumer redressal are the necessary pre-conditions for a country to have an effective regulatory system.
2. The combination of variables like CRD, CST, DPC, CR, O, FHR, CB and SM are observed in three developed countries USA, UK & Australia.
3. Except for Pakistan, all the other six countries show the presence of a single ministry & Regulator for regulation of Telecom and Broadcasting. The possible reason for this is the critical role played by the Media & Broadcasting industry in influencing public opinion and perception about the Government and hence the presence of the broadcasting regulator...
accompanied by restrictions on Foreign Direct Investment in the sector.

4. Financial Autonomy: In all the countries except Japan, the regulator is funded through a fund administered by the Parliament. We found reference of the President in Brazil having considerable say in the budget of the regulator before it is put up for the approval of the Parliament. The U.S. Congress tried to reduce the discretionary interference of the Office of Management and Budget (OMB) by asking commissions to submit their budget proposals simultaneously to the OMB and to Congress. Congress has the power to change the proposal sent by OMB; submission to the President and Congress at the same time adds to this power unfiltered access to information.

5. Appointment of Directors/ Chairmen: Although, the regulators have mandate as per the Act of their establishment to recruit competent professionals irrespective of their political affiliations, in Malaysia & Pakistan the Governments have in the past selected Directors either from the erstwhile SOEs or persons having the desired political affiliation. The FCC in the US has a clear condition of selection three out of the five Commissioners to be selected by the ruling party and the rest come with the backing of the opposition. But, all of them need to be approved by the Senate. This could be implemented in these countries with customization necessary to fit the political set-up of the particular country.

6. Minutes of the meetings to made public: Although it is mandatory for the regulator in all the countries to record the minutes of the meeting, in US, UK and Brazil it is mandatory for the regulator to make the minutes public, this adds to the transparency and accountability of the regulatory officials.

7. Protection of investor from opportunistic behaviour of politicians: Investors and telecom operators can face the problem of time inconsistency where in politicians may change the license conditions once the telecom operators have made large scale investments. To protect investors from such opportunistic behaviour of the Government in power, United Kingdom has made it mandatory to fulfil the following conditions before the license conditions are altered (1) Consent of the telecom operator (2) Consent of the court and (3) Consent of the Competition Regulator. Through the involvement other entities in this process, the risk of time inconsistency has been reduced.

8. Lack of competent human resource: Countries that have been ruled by other countries have shown lack of competent human resources as the ruling country performed the research activities & planning and only implementation was left to local human resources. As a result of years of foreign rule, the focus of local academic institutions was limited only to train human resource for implementation and not for policy research.

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