Vol 11, Issue 8, (2021) E-ISSN: 2222-6990

# Investigating the Regulatory Practices of Telecommunications Sector in Syria: The Case of Syrian Telecommunication and Postal Regulatory Authority

# Issam Mahmoud Haidar

Associate Professor, Department of Business Administration, Faculty of Economics, University of Damascus – Deputy of the National Institute of Public Administration, Damascus, Syria

Email: issamhaidar@yahoo.fr

# Wassim Mohamad Saleh

PhD student, Doctoral Program in Business Administration, Syrian Virtual University,
Damascus, Syria
Email: wassim 125894@svuonline.org

**To Link this Article:** http://dx.doi.org/10.6007/IJARBSS/v11-i8/10446 DOI:10.6007/IJARBSS/v11-i8/10446

Published Date: 16 August 2021

#### **Abstract**

The aim of this research is to investigate the reality of the telecommunications sector in Syria in organizational terms by exploring the role played by the Syrian Telecommunication and postal Regulatory Authority (SY-TPRA).

The conceptual framework was developed using M4O methodology Ayoubi (2008), which is a qualitative research methodology refers to (Motivations, Operations, Organizations, Obstacles, Outcomes), in order to examine the goals and objectives of continuing work to regulate the telecommunications sector in the context of the Syrian crisis, the methods had been adopted by the Authority, the constraints and difficulties had been encountered by the Authority, and the results that had been achieved. The conceptual framework was answered through a series of in-depth qualitative interviews with (35) decision-makers and key players in the Syrian telecommunications sector.

The answers and the data extracted were analyzed through an organized coding process, using the axial coding method developed by Miles and Huberman, (1984) and subsequently sorted according to the conceptual framework used above.

From the answers and information obtained from the above interviews, the researchers developed a qualitative model describing the set of concepts governing the work of SY-TPRA and thus providing a deeper understanding of the process of regulating this sector

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

in the context of the Syrian crisis. The research also concluded with a set of proposals and recommendations that, from the researcher's point of view, contribute to develop the Authority's performance.

**Keywords:** Regulation, Reform, Telecommunications, Governance, Monopoly, Syria.

## Introduction

The early 1990s were accompanied by an extraordinary revolution in information and communication technology worldwide, and this coincided with the rise in voices calling for the opening of competition in this sector, and breaking the monopoly of government, with a view to create new systems that provide telecommunications services based on market rules.

These new regulations were based on the establishment of an appropriate legislative structure to guarantee free competition among the main players in the market, These legislations coincided with the creation of national Authorities that would lead the process of liberalizing the sector, organize its activities and the relationship between the main players in it, while providing the necessary conditions to ensure maximum transparency and control over this The market, with the aim of securing the interests of all stakeholders and influencing this sector.

The experiences of countries in regulating the telecommunications sector vary according to their different circumstances, noting that they all agree in seeking to move this sector from the monopoly system to the free competition system, but they differ in the extent of independence granted to the regulatory Authorities, its mechanism of action and the nature of its relationship with government agencies in charge of formulating national strategies on the one hand, and with the main players in the sector on the other hand, and to the extent that these relations are based on institutional relations governed by strict and clear laws, away from the various political and economic factors, the more the administrative and organizational process of this sector is able to move forward on the right track.

In Syria, the Telecommunications and Post Regulatory Authority was established in 2011, and since its inception, it has faced great difficulties, due to its entry into an existing market. It has made redoubled efforts to inform people of its role, and to convince the main players, especially those who possess the dominant position in the sector, of the need to change their roles, and the way they approach working within it. The crisis that the country is still going through since 2011 also severely affected the telecommunications sector and the Authority's ability to perform its tasks.

# **Literature Review**

Avilés (2020) focused in her research on analyzing the Mexican experiment in regulation which went through two phases and comparing policy options in each one. This research highlights how private policy decisions in the first phase led to ineffective market solutions and was necessary to realize the need for stronger public actions. In both phases, the decisions regarding regulation process were issued by a small group of elites. The research concluded that the political elites' pursuit of making decisions that serve their own interests has missed the opportunity for the country to implement more efficient solutions.

Hallur and Sane (2018) aimed in their research to conduct a comparative study of telecom regulatory practices in India with those in five other countries. In order to complete this research, a qualitative comparative analysis case-based research methodology was adopted. The results of the research show that there were two points in common between the Indian experience and the experiences of the five countries that were compared with it; First, India

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

adopted self-regulation through the establishment of the consumer compensation process led by the Telco-Consumer Group. The second was the convergence of the regulatory functions carried out by the telecommunications regulatory authority with what the ministry of information and broadcasting do, although they are both working independently.

El-Haddad (2017) sheds light in this research on the Egyptian experiment in regulating the ICT sector. The reform process faced many obstacles by the national telecom corporation, and on the other hand, this process imposed coercions on this company. That led to reduce prices, and improve the service quality. This experience provided lessons for policymakers and researchers in addressing the interests of the State, and supported the concept of progressive introduction to competition. However, protecting inefficient national companies, is always at the expense of potentially more efficient outsiders.

Mohamad (2014) focused in this research on explaining the importance of institutional governance on telecommunications productivity, and provided an observed results on the influence of the institutions on the results of the regularity process, and also provided an important evidence of the pivotal role that the institutional environment plays in the success of this process. The stochastic distance function approach was adopted to find out the role played by the institutions in understanding the differences in efficiency across (70) countries. The findings showed that the most important point for a successful regularity process is the executive's subordination to essential checks and balances. Separately legal integrity plays a distinct role in increasing the efficiency of the telecommunications sector during the regulatory process, while freedom from corruption plays a prominent role in increasing the efficiency of the regulatory Authority

Flacher and Jennequin (2008), highlighted the effectiveness of the telecommunications sector regulation process, as it first reviewed the concept of efficiency and dynamism in addition to the main policies used to achieve the set goals, distinguished between effective competition and industrial policy, and presented some suggested indicators that enable the evaluation of the sector's efficiency. These indicators are used to link regulatory policy with the economic performance of OECD member countries.

Varoudakis and Rossotto (2004) confirmed that the regulation of telecommunications sector leads to increased efficiency, and contributing to the growth of ICT. To assess the benefits of regulation on the sector performance, an index indicator has been adopted that includes three main factors: (1) competition in fixed and mobile networks; (2) openness to foreign ownership; (3) pro-competition regulation. Despite recent progress, telecom markets in MENA remain less open to competition than anywhere else in the developing world: competition is obstructed, private contribution is insufficient, and foreign proprietorship is extremely restricted,

Ros (2003) presented the results of his research to find out the impact of the liberalization process of the telecommunications sector in Latin America during the period 1990-1998. He concluded that privatization and the existence of an independent oversight Authority have had a positive impact on increased telecommunications intensity and operational efficiency, while telecommunications intensity has affected competition and price ceilings.

Henten et al (2002) aimed in their research to study the multiple relationships that govern the regulation of the telecommunications and information sector, both those policies that attempt to develop a single method of management and regulation of the sector and those that seek to regulate it through the adoption of a variety of methods suited to the diversity of components of the sector. The research also tried to raise a range of practical questions regarding the implementation of these policies on the ground, while trying to

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

highlight some of the decisions taken in some States that are linked to the formulation and regulation of the sector. The researchers found that the main drivers of these regulatory policies revolve around increasing the efficiency of this sector and making it a creative market, and how changes in regulatory policies can positively influence the operations and activities of this sector.

# **Conceptual Framework**

The research highlights some of the regulatory problems affecting the telecommunications sector in Syria, and examines the obstacles that faced the efforts made by the Telecommunications and Postal Regulatory Authority to transform it from a sector under the authority of the monopoly system to one subject to a system of free competition, in the context of the country's crisis. The Government's efforts in this direction have been accompanied by a few academic studies and research that help the decision maker to develop a better vision and to assess the performance of the Authority, thereby completing the regulatory process of the communications sector and creating the right environment to stimulate growth and contribute effectively to the reconstruction process.

Based on the above, this research aims to answer the following questions:

- 1. What are the goals and objectives of continued work to regulate the telecommunications sector in the context of the Syrian crisis?
- 2. What methods had been adopted by the Authority?
- 3. What constraints and difficulties had been faced by the Authority?
- 4. What results had been achieved by the Authority?

## **Research Tool**

To answer the questions raised by the research, the qualitative research methodology M4O Ayoubi (2008), which refers to (Motivations, Operations, Organizations, Obstacles, Outcomes), was adopted. First, several in-depth interviews were conducted with many experts and managers involved in this field, and based on the collected data from these interviews, a set of questions were developed to be asked during the structured interviews conducted with the research sample members.

In order to ensure obtaining as much data as possible, the researchers made sure that the research sample consisted of individuals who had the required information on the one hand, and had the authority to provide this information on the other hand. Accordingly, a purposive sample of (35) individuals was selected for structured interviews. This sample represent key decision-making players in Syria's communications sector, both public and private, as well as a group of researchers in the telecommunications sector.

At the beginning of each interview, the researcher introduced himself, and the research he was working on, and then learned about the questions that the research aimed to answer, which would be the main focus of the conversation, and the duration of the interview ranged from 45 to 60 minutes. The questions that were asked varied, taking care to fulfil each of the research axes its right to debate, and these interviews resulted in collecting a large amount of data that deserves to be analyzed.

The research also relied on other secondary sources, including the Communications Law No. 18 of 2010 and its implementing regulations, reports issued by relevant government agencies. (2011 - 2020), reports issued by the main players in the sector (2011-2020), reports issued by International Agencies (2011-2020).

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

After completing the process of collecting the data that were mainly obtained from the interviews, in addition to the other secondary sources relating to the research, it was necessary to convert them into electronic texts in order to facilitate the analysis process.

The first step in the data analysis process was to perform a structured encoding process, by applying the axial coding method Miles and Huberman, (1984) to the collected texts, and as a result we were able to compile literal texts (Verbatim) on the same subject into categories that we could call Codes. The second step was to compile all verbatim texts into a simplified database with the following structure:

Source	interlocutor	Verbatim	Descriptor	Attribute	Dimension

The third step was using the MS. Excel to obtain the number of literal texts at the level of descriptor, attribute and dimension, and then display these results into tables that show us through percentages the importance of each coding extracted, and thus give a clear idea of the issues that must be focused On, and give them adequate attention.

# **Research Finding**

## List of Codes

Code		Category	
Q1	The goals and objectives of continued work to regulate the telecommunications sector in the context of the Syrian crisis		
Q1.1		The role of the government	
Q1.1.1			Ensuring the continuity and stability of service delivery
Q1.1.2			Strengthening national security
Q1.1.3			Access to a well-defined market
Q1.2		Sector development	
Q1.2.1			Keeping up with Best Practices
Q1.2.2			Striving towards a knowledge- based economy
Q1.2.3			An environment conducive to the provision of the best services
Q1.3		Economic policy	
Q1.3.1			Providing services at appropriate prices
Q1.3.2			Get the highest possible return

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

Q1.3.3	1		Providing attractive
Q1.5.5			opportunities for investors
Q2	Methods which had been		opportunities for investors
ا م	adopted by the Authority		
Q2.1		Independence and	
		powers	
Q2.1.1		person	An independent Authority that
			looks after national interests
Q2.1.2			Flexibility in decision-making.
Q2.1.3			Separation of regulation from
			operation
Q2.2		Preparing the	
		regulatory	
		framework	
Q2.2.1			Issuing the authority's internal
			regulations
Q2.2.2			Issuing license forms
Q2.2.3			Issuing regulatory decisions
Q2.3		Attracting	
		qualified staff	
Q2.3.1			Opening a master's degree in
			Organization
Q2.3.2			Create flexible working groups
Q2.3.3			Seeking to provide a suitable
			work environment
Q2.4		Licensing of market players	
Q2.4.1			Regularization of current players
Q2.4.2			Attracting new players
Q2.4.3			Licensing of new services
Q.2.5		Enhancing	Licensing of new services
Q.2.3		relationship with	
		players	
Q2.5.1			The neutrality of the Authority towards all
Q2.5.2			Adoption of transparency
Q2.5.3			Participatory decision-making
Q2.3.3			with the players
Q3	The constraints and difficulties		
	which had been faced by the		
	Authority		
Q3.1	<u> </u>	Resisting Change	
Q3.1.1		22.22.0.2000.00	Questioning the authority's
,			role
Q3.1.2			Exploiting the circumstances
			of the crisis
Q3.2		Syrian crisis	
Q3.2.1		·	Destruction of infrastructure
Q3.2.2			Bad security conditions

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

02.2.2			Difficulty of congreting with
Q3.2.3			Difficulty of cooperating with
02.2		The staff	global companies
Q3.3		The staff	
Q3.3.1			The scarcity of experienced
			staff in this domain
Q.3.3.2			Migration of qualified staff
Q3.3.3			Poor salaries
Q3.4		Economic	
		constraints	
Q3.4.1			Sanctions
Q3.4.2			Inflation
Q3.4.3			Poor funding
Q3.5		Legal constraints	
Q.3.5.1			Legislative environment
Q3.5.2			Developing the regulations for
			organizing the sector
Q3.5.3			Developing the authority's
			internal regulations
Q3.6		Lack of effective	
		tools to monitor	
		the sector	
Q3.6.1			Monitor the quality of the
			services provided
Q3.6.2			Activating the role of the law
			enforcement
Q3.6.3			Activating the role of the
			Conflict Resolution Committee
Q4	The results which had been		
	achieved by the Authority		
Q4.1		Social	
Q4.1.1			Improving customer
			satisfaction
Q4.1.2			Applying the concept of
			universal service
Q4.2		Economic	
Q4.2.1			
			Improving sector revenues
Q4.2.2			Improving sector revenues  Development of other sectors
			Development of other sectors
Q4.2.3		Knowledge	
Q4.2.3 Q4.3		Knowledge	Development of other sectors Increase employment
Q4.2.3		Knowledge	Development of other sectors Increase employment Keeping up with global
Q4.2.3 Q4.3		Knowledge	Development of other sectors Increase employment  Keeping up with global developments in this sector
Q4.2.3 Q4.3		Knowledge	Development of other sectors Increase employment Keeping up with global
Q4.2.3 Q4.3 Q4.3.1		Knowledge	Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them
Q4.2.3 Q4.3		Knowledge	Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified
Q4.2.3 Q4.3 Q4.3.1		Knowledge	Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified technical knowledge and
Q4.2.3 Q4.3 Q4.3.1			Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified
Q4.2.3 Q4.3 Q4.3.1 Q4.3.2		Knowledge  Organizational	Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified technical knowledge and professional staff
Q4.2.3 Q4.3 Q4.3.1			Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified technical knowledge and professional staff  Transforming the sector into a
Q4.2.3 Q4.3 Q4.3.1 Q4.3.2			Development of other sectors Increase employment  Keeping up with global developments in this sector and trying to catch up with them  Creating highly qualified technical knowledge and professional staff

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

Q4.4.2	Creating a greater atmosphere of transparency
Q4.4.3	Creating a greater atmosphere
	of real Competition

Source: Prepared by Researchers

# **Distribution of Verbatim**

	Code	Number of Verbatim repeats	Percentage
Q1 The goals and objectives of continued work to regulate the telecommunications sector in the context of the Syrian crisis			
	Q1.1 The role of the government	56	46%
	Q1.2 Sector development	36	30%
	Q1.3 Economic policy	29	24%
	Partial total	121	20%
Q2 Methods which had been adopted by the Authority			
	Q2.1 Independence and powers	40	16%
	Q2.2 Preparing the regulatory framework	50	20%
	Q2.3 Attracting qualified staff	66	26%
	Q2.4 Licensing of market players	41	16%
	Q2.5 Enhancing relationship with players	55	22%
	Partial total	252	31%
Q3 The constraints and difficulties which had been faced by the Authority			
	Q3.1 Resisting Change	30	10%

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

	Q3.2 Syrian crisis	65	21%
	Q3.3 The staff	54	17%
	Q3.4 Economic constraints	60	19%
	Q3.5 Legal constraints	52	17%
	Q3.6 Lack of effective tools to monitor the sector	48	16%
	Partial total	309	38%
Q4 The results which had been achieved by the Authority			
	Q4.1 Social	24	18%
	Q4.2 Economic	43	32%
	Q4.3 Knowledge	35	26%
	Q4.4 Organizational	32	24%
	Partial total	134	15%
Total		816	100%

Source: Prepared by Researchers

# **Discussion and Practical Implications**

The results of the analysis showed that both the second and third axes received most of the attention of the participants in these interviews, as the frequency of phrases at the Q3 level being (38%), and the frequency at the Q2 level being (31%).

The results of the analysis at the first axis level (Q1) showed that the first most important goals and objectives of continued work to regulate the telecommunications sector in the context of the Syrian crisis was to strengthen the role of the government by ensuring the continuity and stability of service delivery, strengthening national security, and access to a well-defined market. The second goal was to develop the telecommunications sector by keeping up with best practices, striving towards a knowledge-based economy, and providing an environment conducive to the provision of the best services. The third goal was setting an economic policy by providing services at appropriate prices, getting the highest possible return, and providing attractive opportunities for investors

The results of the analysis at the second axis level (Q2) showed that the first most important method which had been adopted by the Authority was to focus on attracting qualified staff by opening a master's degree in organization, creating flexible working groups, and Seeking to provide a suitable work environment. The second method was enhancing relationship with players by the neutrality of the Authority towards all, adoption of transparency, and participatory decision-making with the players. The third method was preparing the regulatory framework by issuing the authority's internal regulations, the license

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

forms, and the regulatory decisions. The last two important methods were Independence and powers, and Licensing of market players.

The results of the analysis at the third axis level (Q3) showed that the first most important constraint which had been faced by the Authority was the crisis that the country is still going through since 2011, which had negative consequences for the sector such as destruction of infrastructure, bad security conditions, and difficulty of cooperating with global companies. The second constraint was the economic constraints such as sanctions, inflation, and poor funding. The third constraint was the staff as the analysis also showed that despite the authority's endeavour to attract the best qualified staff, it was not able to achieve this as hoped, given the scarcity of experienced staff in this domain, migration of qualified staff and poor salaries due to the economic difficulties and the conditions of the crisis which greatly affected standard of living, which led to the authority losing of some of its qualified staff. The other constraints were resisting change, legal constraints, and lack of effective tools to monitor the sector.

The results of the analysis at the forth axis level (Q4) showed that the first most important result which had been achieved by the Authority was on the economic level such as improving sector revenues, development of other sectors, and improve employment. The second result was on the knowledge level such as keeping up with global developments in this sector and trying to catch up with them, and creating highly qualified technical knowledge and professional staff. The third result was on the organizational level such as achieving good steps to transform the sector into a liberalized and well-regulated one, creating a greater atmosphere of transparency, and creating a greater atmosphere of real competition. The forth result was on the social level such as improving customer satisfaction and applying the concept of universal service.

The results shown above provide clear and precise answers to the questions raised by the research, which helps to formulate a qualitative model that clarifies the set of concepts that accurately describe the process of regulating the telecommunications sector in Syria since the establishment of the Telecommunications and Post Regulatory Authority. This provides an indepth understanding of this process during the crisis, and enables the Authority to prepare an action plan for the next phase based on the results which had been achieved, and focuses on maximizing the role of positive factors and trying to mitigate as possible the impact of constraints encountered during the previous period.

## **Limitations and Future Research**

The research was conducted using one research methodology, which is the qualitative methodology approach, and it would be useful to carry out further research on this topic using the quantitative methodology approach. The results are limited to the number of people, although the data was accurately analyzed and validated.

To complete the findings of this research, it would be useful to initiate in-depth studies of the reality of the communications market in Syria, and the relationship between the main players in this market.

In addition, detailed comparative research with the experiences of other countries in the field of regulation could be conducted to benefit from their experiences in this field, and to avoid the obstacles they faced.

Finally, it would be useful to study the needs of Syrian telecommunications sector to introduce new services that are compatible with users' requirements, and propose how best to provide these services at good quality and affordable prices.

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

## Conclusion

The research shed light on the process of regulating the communications sector in Syria since its launch about 10 years ago. The findings of the research revealed many important points that constitute a conceptual model which accurately describes what the Syrian telecommunications and postal Authority had accomplished during the previous period, the obstacles it had encountered, and the methods it had used to accomplish its tasks. Several future researches have been suggested to complement the findings of this research and to help develop the regulation process in Syria.

# Originality/Value

As far as the researchers are aware, this research is the first of its kind to be carried out in the Telecommunications sector in Syria. This research constitutes a theoretical addition to the previous research through its reliance on the concepts of stakeholder theory, and the investigation of the gradual transition between the concepts of the monopolistic and competitive communications market. It differs from previous one in the scientific boundaries, in addition to that it tries to investigate the reality of the regularity process in Syria in the context of the crisis, and provide a conceptual description of this process, which will help decision makers in the Syrian Telecommunications and Postal Regulatory Authority to consolidating the results which had been achieved and exploring the difficulties that had been encountered in order to overcome it.

## References

- Avilés, J. M. (2020). A tale of two reforms: Telecommunications reforms in Mexico. *Telecommunications Policy*, 44(7), 101942. https://doi.org/10.1016/j.telpol.2020.101942
- Ayoubi, R. (2008). Strategic Management and Globalization: The M4O and 5S Methods and International Partnerships in Universities. (1 ed.) VDM Verlag Müller.
- El-Haddad, A. (2017). Welfare gains from utility reforms in Egyptian telecommunications. *Utilities Policy*, 45, 1–26. https://doi.org/10.1016/j.jup.2016.10.003
- Flacher, D., & Jennequin, H. (2008). Is telecommunications regulation efficient? An international perspective. *Telecommunications Policy*, *32*(5), 364–377. https://doi.org/10.1016/j.telpol.2008.02.005
- Hallur, G. G., & Sane, V. S. (2018). Indian telecom regulatory framework in comparison with five countries: structure, role description and funding. *Digital Policy, Regulation and Governance*, 20(1), 62–77. https://doi.org/10.1108/dprg-06-2017-0035
- Henten, A., Samarajiva, R., & Melody, W. (2002). The Next Step for Telecom Regulation: ICT Convergence Regulation or Multisector Utilities Regulation? *The Southern African Journal of Information and Communication*, 3. https://doi.org/10.23962/10539/19831
- Irina, Petr, Galina, Natalia, Vasily, & Svetlana. (2020). Legal Regulation of the Information Space as a Way of Forming Modern Legal Awareness. *International Journal of Economics and Business Administration*, *VIII*(Issue 4), 904–913. https://doi.org/10.35808/ijeba/639
- Khleef. (2021). Institutional Governance Practices in Jordan Government Units. *International Journal of Economics and Business Administration, IX* (Issue 1), 52–65.

Vol. 11, No. 8, 2021, E-ISSN: 2222-6990 © 2021

- https://doi.org/10.35808/ijeba/657
- Miles, M. B., & Huberman, M. A. (1984). *Qualitative Data Analysis: A Sourcebook of New Methods*. SAGE Publications, Inc.
- Mohamad, N. (2014). Telecommunications reform and efficiency performance: Do good institutions matter? *Telecommunications Policy*, *38*(1), 49–65. https://doi.org/10.1016/j.telpol.2013.04.006
- Ros, A. J. (2003). The Impact of the Regulatory Process and Price Cap Regulation in Latin American Telecommunications Markets. *Review of Network Economics*, 2(3). https://doi.org/10.2202/1446-9022.1029
- Sumpf, D. (2015). *Economic Governance Series Competition and Regulation in the Arab Region.* Beirut: Economic and Social Commission for Western Asia (ESCWA).
- Varoudakis, A., & Rossotto, C. M. (2004). Regulatory reform and performance in telecommunications: unrealized potential in the MENA countries. *Telecommunications Policy*, 28(1), 59–78. https://doi.org/10.1016/j.telpol.2003.06.002