

الآية

قال تعالى :

{ وَقُلِ اعْمَلُوا فَسَيَرَى اللَّهُ عَمَلَكُمْ وَرَسُولُهُ
وَالْمُؤْمِنُونَ }

صدق الله العظيم [التوبة:105]

Dedication:

I would like to dedicate this work to my mother and soul of my father.

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In the beginning thanks and praise be to Almighty Allah who has guided us to knowledge and success and into a beacon of science and knowledge Sudan University of Science and Technology,,,

I extend thanks and praise to special individuals who illuminate the minds of others through their knowledge and guide the puzzled ones who yearn for their guidance. Thanks and praise to those individuals:

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Abstract

In order to keep pace with the growing demand and the significant developments in progress within communication technology, especially wireless data transmission services, the adoption of new mechanisms for the pricing of mobile internet services has become a necessity and a duty. It is well known that pricing mechanisms require the existence of a regulatory framework to monitor and ensure the benefit of the service provider and the service user at the same time.

Firstly, the study under discussion, looked at the mechanism for the formation of a regulatory framework, mainly, to monitor mobile internet service pricing on the basis of the level of quality of service provided, then, to encourage service providers to adopt such a mechanism and, ultimately, to acquaint users with such service so they can learn how to link the tariff level with the quality provided.

To achieve such objectives, recommendations, courtesy of the International Telecommunication Union for the quality of services were chosen by the study as a parameter. Moreover, the experiences of some countries that have special regulations for the quality of mobile services were taken into account however; those countries were purposefully selected at random. Furthermore, a field survey targeting mobile service providers in Sudan, the regulatory system and the users of the services was chosen to gather the much needed information for this study.

As a result, the broad analysis of the study, which was conducted on the information that has been collected through the field survey (questionnaires) revealed that Nigeria is the country which bears the most resemblance to Sudan in terms of the number of operators who are in the market, the level of competition between service providers, penetration rate of Service Mobile, the proportion of people who use the Internet, the level of annual per capita income and the rate of enrolment in universities. The analysis have also produced the general outline of the regulatory framework which will regulate and monitor the pricing based on the level of quality provided to mobile internet service. The results had, on the other hand, showed large interest accruing to the service providers in return if and when they eventually adopt such a mechanism.

Finally, the study has elucidated the mechanisms and channels that can be used to increase the awareness of users of Mobile Services and how to acquaint them with the quality of services on offer.

ملخص الدراسة

اصبح اعتماد آليات جديدة لتسعير خدمات الموبايل انترنت ضرورة وواجب ليوكب الطلب المتزايد والتطور الكبير الحاصل في تكنولوجيا الاتصالات وخاصة خدمات نقل البيانات عبر الشبكات اللاسلكية، وكما هو معلوم ان آلية التسعير تحتاج لوجود اطار تنظيمي يراقب تلك الآلية ويضمن استفادة مقدم الخدمة ومستخدم الخدمة في أن واحد، بحثت هذه الدراسة عن آلية لتكوين اطار تنظيمي لمراقبة تسعير خدمة الموبايل انترنت على اساس مستوى جودة الخدمة المقدمة وتشجيع مقدمي الخدمة على اعتماد تلك الآلية وتوعية مستخدمي الخدمة لمعرفة وربط التعرف بمستوى الجودة المقدمة ، وكان ذلك عبر الاستعانة بتوصيات الاتحاد الدولي للاتصالات الخاصة بجودة الخدمات بالاضافة الي الاخذ في الاعتبار تجارب بعض الدول والتي تم اختيارها بشكل عشوائي وبشرط ان يكون لديها لوائح تنظيمية خاصة بجودة خدمات الموبايل بالاضافة لاجراء مسح ميداني استهدف مقدمي خدمات الموبايل بالسودان والجهاز التنظيمي ومستخدمي الخدمات . وقد وضح التحليل الذي اجري على المعلومات التي تم جمعها عبر المسح الميداني (الاستبيان) ان نيجيريا هي اكثر الدول تشابهاً مع السودان من حيث عدد المشغلين الموجودين بالسوق ، مستوى المنافسة بين مقدمي الخدمات، نسبة تغلغل وانتشار خدمة الموبايل، نسبة الأشخاص اللذين يستخدمون الانترنت، مستوى دخل السنوي للفرد ومعدل الالتحاق بالتعليم الجامعي. كما خرجت نتائج التحليل بالشكل العام للاطار التنظيمي الذي سوف ينظم ويراقب التسعير على اساس مستوى الجودة المقدمة لخدمة الموبايل انترنت و اوضحت النتائج الفائدة الكبيرة التي تعود على مقدمي الخدمة من اعتماد تلك الآلية وختاماً وضحت الآليات والقنوات التي يمكن استخدامها لزيادة وعي مستخدمي خدمات الموبايل و تعريفهم بنوعية الخدمات المقدمة.

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Glossary

QoS	Quality of service
SLA	Service Level Agreement
ITU	the International Telecommunication Union
BE	Best Effort
ISPs	Internet Service Provider
<u>Four Ps</u>	Price, Product, Promotion, and Place
NBR	Nominal Bit Rate
DP	Drop Preference
DI	Delay Indication
P2P	Peer-to-Peer
QoE	Quality of Experience
IP	Internet Protocol

VoIP	Voice Over Internet Protocol
CoSes	Class of Service
KPI	Key Performance Indicators
TRC	Telecommunications Regulatory Commission
NTC	National Telecommunication Corporation
GDP	Gross Domestic Product