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#### **Abstract**

Telecommunications market is witnessing a rapid expansion in Sudan, this research enriches telecom operators in Sudan with new technology of interconnection connectivity via Internet Protocol. The aim of this study is to identify the new system to link the technical and operational aspects. To achieve the objective of the study, and access to contribute to finding a solution, has been the use of the comparative method to monitor deficiencies in linking the current and the possibility of finding a solution for every technical problem in the system proposed solution, which is designed according to modern systems and scientific standards. Study has come out to clarify the possibilities of large and multi- linking less cost and ease of control and operation of the transmission of telephone and data. The study revealed some drawbacks and shortcomings of the project the number of mobility operator to another (MNP Mobile Number Portability) and its impact on the profits of operators where this service increases the efficiency of telecommunication companies in providing services for the highest quality and lowest prices for fear of turning customers to another operator. Also research topic dealt with sharing of telecommunications infrastructure between operators and the possibility of building networks of shared resources in a unified, rather than individually each operator setting up infrastructure individually, where the study has clarified reduce the operational cost and structural comparison between what it is now the existence of networks and infrastructure for each individually and the possibility of the involvement of all the operators in the establishment of a common infrastructure represented in fiber-optic networks, communications towers, power resources of and powersaving devices, and so on.

#### الخلاصة

يشهد سوق الاتصالات توسعا سريعا في السودان, يثرى هذا البحث مشغلى الاتصالات في السودان بتقنية جديدة للربط البيني هي تقنيىة الربط عن طريق برتكول الانترنت.

تهدف هذه الدراسة إلى التعرف على النظام الجديد للربط من الجوانب الفنية والتشغيلية. ولتحقيق الهدف من الدراسة والوصول لطرق تسهم في إيجاد حل ، تم استخدام المنهج المقارن لرصد اوجه القصور في الربط الحالي وامكانية ايجاد حل لكل مشكلة فنية في نظام الحل المقترح، الذي صمم وفق النظم الحديثة و العلمية المتعارف عليها.خرجت الدراسة بتوضيح الامكانيات الكبيرة والمتعددة للربط باقل التكلفة وسهولة المراقبة والتشغيل لنقل الحركة الهاتفية والبيانات . وكشفت الدراسة عن بعض السلبيات وأوجه القصور في مشروع النتقل بالرقم من مشغل الى اخر وتاثيره على ارباح المشغلين حيث تزيد هذه الخدمة من كفاءة شركات الاتصالات من حيث تقديم الخدمات باعلى جودة واقل الاسعار خوفا من تحول المشتركين لمشغل اخر كذلك تطرقت الدراسة الى تقاسم البنية التحتية للاتصالات بين المشغلين وامكانية بناء شبكات مشتركة في موارد موحدة عوضا عن انفراد كل مشغل بانشاء بنية تحتية منفردة, حيث تمكنت الدراسة بتوضيح تقليل التكلفة التشغيلية والانشائية مقارنة بين ماهو عليه الان من وجود شبكات وبنية تحتية لكل مشغل على حدة و الامكانية من اشتراك كل المشغلين في انشاء بنية تحتية مشتركة متمثلة في شبكات الالياف الضوئية وابراج الاتصالات و مصادر الطاقة من مولدات و اجهزة حفظ الطاقة وخلافه.

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