

VOICE OVER THE INTERNET (VOIP): AN APPLICATION OF REAL OPTIONS

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ITS 2000

Buenos Aires, Argentina

5-7 July 2000

ABSTRACT

Traditional valuation tools do not adequately support management's decisions because they ignore the benefits of managers' flexibility and future opportunities. A new technique for evaluating strategic investment decisions is the real options approach, which is capable of including the value of active management and strategic opportunities under uncertainty.

This paper applies real options techniques to estimate the value of Voice over the Internet Protocol (VoIP) (Also known as IP Telephony). It shows that the traditional approach has underestimated the value of VoIP. Because of the difficulty in locating a typical IP Telephony carrier, a hypothetical carrier is assumed with a backbone network and its subscribers. The model applied to the real options approach is Black-Scholes Option Model and Binomial Option Model. The result of the real options approach is compared with that of the traditional Net Present Value (NPV) approach.

This comparison shows that the real options approach reverses the result of traditional NPV analysis when applied to IP telephony. Whereas the traditional NPV approach to IP Telephony produced a negative NPV (-\$64 million), the real option value produced a positive (\$54 million). The traditional approach underestimates the value of the project by ignoring the effect of managers' flexibility at future opportunities. The real options approach should be utilized in order to value management's flexibility and opportunities inherent in future strategic investment decisions of a business world including IP telephony.