CHAPTER 2

LITERATURE REVIEW

This research is to carry out the market analysis and feasibility study on Wireless Local Loop (WiLL) telecommunication system in rural Malaysia.

The purpose of the previous research which was conducted by Chris Knepler, Dan Norton and Poul Erik Olsen of University of California at Berkeley[1] was to investigate and establish the range of costs for telephone land line installation in Indonesia. By determining this range of costs of the outside plant (OSP) component of the network system and by identifying those factors driving cost variance, therefore better understand the installation process and costs of WiLL's major competitor in Indonesia - land lines. By

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[1] Chris Knepler, Dan Norton and Poul Erik Olsen, "Wireless Local Loop Vs. Land Line, Cost Analysis And Comparison: Indonesia", University of California at Berkeley, sponsored by Motorola, Arlington Height, September 1993.

comparing the costs of WiLL to these land line costs, the findings allow Motorola to target those areas and conditions where WiLL is most cost competitive and to avoid those situations where land line installation is easy and inexpensive.

The research revealed that the cost of land line telephone systems in Indonesia is influenced by a range of regional and location specific factors. The range of land line costs approximately 90% of current and planned land line installations is between US$ 100 and US$ 600 as compare to WiLL's cost per subscriber between US$ 1100 and US$ 1500 in Indonesia. Thus, WiLL is not cost competitive with land line in the overwhelming majority of locations in Indonesia.

In his case study, Phyllis Csentino[2] presented that as a region's communication needs continue to grow, the wireless loop access system may be replaced by a traditional wired-loop plant. In a region as large as the developing

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[2] Phyllis Cosentino, "Case Study : Wireless Implementation and Applications in Developing Regions of Asia", Wireless International Systems Engineering, AT&T Bell Laboratories, USA, December 1993.

regions of Asia, the need for a ubiquitous wired network may never arise. Rural regions may be covered via wireless loop access indefinitedly.

While wireless loop systems have continued to drop in price, they have maintained their technical advantages over the wired loop. The figure showed that 95% of US market was covered by land line; 3-5 % of developing countries whereas about 60% in average of the developed countries was covered by land line. Area with wide open spaces and pocketed population area such as certain rural area in Asia would be a emerging potential WiLL market.

OMNITELE[3], one of the telecommunication consultation firm, they expressed their confident in its wireless local loop product evaluation report that WiLL has the potential of becoming a substitute of regular land line telephone in the rural market, but in order to respond to the market needs in the high population density areas, Motorola

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13 Pekka Nykanen, "Wireless Local Loop Product Evaluation", OMNITELE, June 1993.

could combine an N-AMPS switch platform with a digital cellular system in order to offer asystem solution with wider scope for network operators.

Notably, most of the research on the WiLL telecommunication has been conducted in Asia other than Malaysia. The studies were to identify regional and location factors influenced the cost competitiveness in comparing with the regular land line, market potential on WiLL telecommunication and types of WiLL technology suitably fitted into the specific Asia market.

This study is more consumer-oriented, in the sense that we are more concern about the consumer satisfaction level, reliability, time of break down, cost perception of the current telephone service. With regards to potential users, we will determine their willingness to pay for installation, willingness to pay for additional premium for immediate installation and projected traffic types. We also not forget to find out the reason why the remaining of the rural folks not desiring telephone service. With the data gathered, we will formulate the market strategy which could capture the anticipated competitive Malaysia market.

Meanwhile, because of Malaysia's explicit aim to bring the telephone to the rural areas, we hope with this study, we could identify the cost effective way of telephone deployment to this area.

This research is justified based on the ground that no feasibility study for the deployment of WiLL product has been conducted in Malaysia. Furthermore, this study is the first of its kind ever to be held to investigate the dynamics of the rural telecommunicions market in Malaysia.