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Strategic Alignment of VSAT System
in Corporate IT: INFOKOM's Case

Rafdian Rasyid

Can VSATs play a significant strategic role in terms of supporting businesses?
Can VSATs support corporate IT?

It is obvious that in Indonesia, VSAT is a must have infrastructure for business. Nobody can argue that Indonesia up to now does not have terrestrial infrastructures that can cover remote areas or even metropolitan areas. Only VSATs can reach them. However, what link can we make between the existence of VSATs and IT in the corporate environment? This article attempts to answer that. We will also discuss challenges faced by VSAT operators, and solutions that can be applied.

I. Introduction

PT. Infokom Elektrindo ("INFOKOM"), established in 1998, is one of the leading VSAT service providers in Indonesia. According to the Comsys Report 2003, INFOKOM is the second largest SCPC VSAT provider throughout the country, ranking third in the Asia Pacific region. Despite the recent establishment of the company, the VSAT services of INFOKOM actually began in the 1980s under its parent company. INFOKOM's VSAT services are well-known under the brand-name of "SmartCom."

In the past, VSAT players tended to look at a VSAT network as merely a telecommunication infrastructure. VSAT people usually thought of Information Technologies in the corporate environment as not having a direct connection to the VSAT. They consider that IT and corporate IT applications are outside of the VSAT world. However, the issue of "convergence" of telecommunications and IT has pushed telecommunication professionals to look more at the IT area. To better sense this issue, we need to observe the IT domain.

II. IT System Definition

Referring to a commonly used definition, IT (Information Technology) is a system or technology that can (i) Retrieve, (ii) Transfer, (iii) Analyze, (iv) Present, and (v) Store information. The term "information" is defined as any data that is useful for business. Traditionally, IT can be divided into two layers namely: (1) Infrastructure layer, and (2) Application layer. Table 1 summarizes the technology function of IT.

Function of Technology	Key Technology
Retrieve (infra)	Apps User Interface, Keyboard, Mouse, Web Browser, GUI, Scanner, Sensor, etc.
Transfer (infra)	LAN, Ethernet, WAN, Leased Line, VSAT, VPN-IP, etc.
Analyze (apps)	Business Apps, ERP, SAP, Oracle Apps, CRM, BI, Server, CPU, etc.
Present (apps)	Monitor, Display Board, Power Point, Web Browser, Buzzer, GUI, etc.
Store (infra)	Database, RDBMS, Oracle DB, Hard-Disk, Storage, Tape Backup, SAN, CD-RW, Diskette, etc.

Table 1. Key Technologies Involved in the IT Domain

III. The Strategic Role of IT for Business

One of the tools for understanding the strategic alignment between IT and business is depicted in Figure 1 (called "Mc Farlan Strategic Grid"). This tool is commonly used by companies in developing their strategic IT plan. The idea is to map the current condition and the expected future condition. The term "expected future condition" is driven by the business strategy. Some companies that fall into the Support quadrant might not be able to move to other quadrants due to their business process that do not rely too much on IT. For example, major industrial process companies or major chemical companies do not use IT as their strategic weapon to win the competition.

The interesting case is in the banking industry. Before 1990, major banks fell into the Factory quadrant, in which many day-to-day operations were actually very dependent to the existence of IT. After 1990, major banks moved to the Strategic quadrant since most of them were using IT as a strategic weapon to win the competition (for example: most of them use ATMs and online banking services to compete with others).

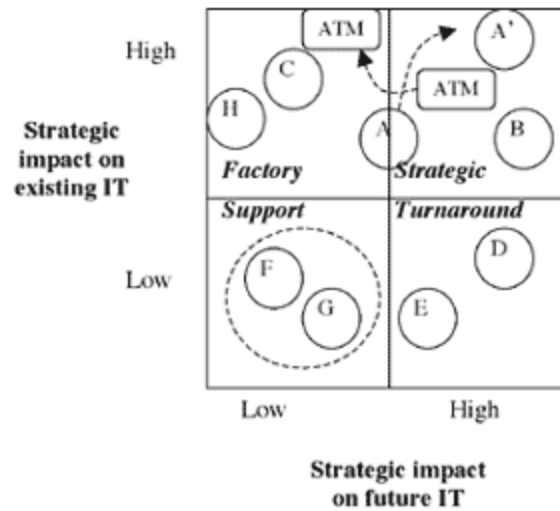


Fig. 1: Strategic Impact of IT to Business
 Source: [Applegate 1999], [Ward 1996], [INFOKOM 2001]

- A. Major Banks (before '90)
- A'. Major Banks (after '90)
- B. Major Insurance Companies
- C. Medium size grocery chains
- D. Major Distributors
- E. Major Airlines (before '90)
- F. Major Chemical Companies
- G. Major Industrial Process Companies
- H. Insurance Brokers
- ATM: Automated Teller Machine

One should bear in mind that neither companies or IT products can stay forever in the Strategic quadrant. After a certain amount of time, companies or IT products can move or be moved to other quadrants. The best example of this is the ATM (Automated Teller Machine). In the Indonesian case, before 2000 an increasing number of banks were using ATM as the key differentiator to win the competition. So, before 2000, ATM was in the Strategic quadrant. However, at this point in time the ATM is no longer considered as strategic, but merely as an operational item. Now, there emerge ATM "consortiums" (called ATM-networks) such as ALTO, ATM Bersama and ATM Link, or even global ones such as Cirrus or Maestro. A small size bank in Indonesia now can immediately have thousands of ATMs just by connecting to an ATM-network.

IV. Corporate IT Spending

The VSAT service procurement and its budget in companies is normally allocated as IT infrastructure budget. Figure 3 gives an idea of how corporate IT spending is tightly coupled with its business strategy.

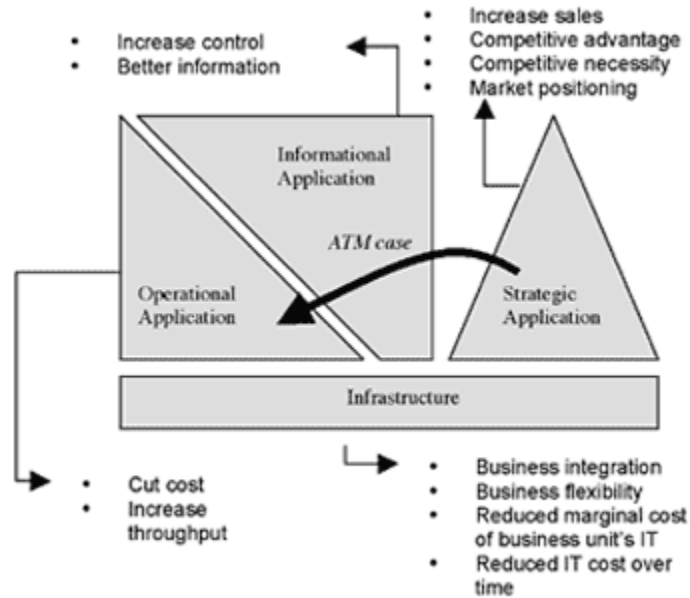


Fig. 2: Strategic Impact of IT to Business
 Source: adapted from [Weil 1998], [INFOKOM 2001]

Figure 2 depicts the infrastructure and the application portfolio in companies. The foundation of the application is the infrastructure, whereby the application itself can be categorized into three kinds of applications, namely: strategic, informational, and operational. It is normal for a strategic application, as in the case of ATMs to become an operational application.

	Average Firm	Business Strategy Cost Focused	Business Strategy Balanced Cost & Agility	Business Strategy Agility Focused
IT Spending				
IT Spending compared to Industry standard average as a percentage of Revenue and Expense	4.1% of Revenue 7.7% of Expenses	10% to 20% lower than industry average	Approx. Industry average	10% to 25% higher than industry average

Fig. 3: IT spending Pattern Compared to Business Strategy
 Source: [Weil 1998]

As we have seen in Table 1, the VSAT is part of the IT infrastructure. If we agree with this idea, then looking at the spending pattern in Figure 3, we should get the sense of how the VSAT service procurement in companies is also affected by their business strategy and the IT spending pattern.

V. VSAT System Growth in the Strategic Area

Referring to Figure 3, it is interesting to see that a company spending relatively high on strategic applications also spends a high percentage of money for the infrastructure. In INFOKOM's case, it is found that more companies embraced VSAT at the first time for their strategic applications. This is mainly because of time considerations in anticipating competition. For example, many provincial banks embarked on an online system, for which all of their branches and remote offices needed to be integrated as quickly as possible. To them, online system applications are the strategic application to anticipate their growth or expansion from national private banks. In this case, VSAT demand is quite high.

A similar case happened with the tax agency (part of the Finance Ministry) in Indonesia. To reduce tax payment leakages the agency implemented its online payment application system that integrates all of their payment points. Again, due to time constraints, all of the remotes at the first stage implementation were served by VSATs. However, as times goes by and the strategic application becomes operational, the cost factor becomes dominant and the number of VSAT terminals are reduced step by step until it gets to a level at which no terrestrial lines can serve.

For Indonesia's case, however, the economic crisis during 1997 - 1999 was a major contributor to the decreasing number of VSAT terminals installed. During that time period, many banks switched from VSAT services to terrestrial frame relay. In 1997, the total VSAT market was US\$68 million dollars. It decreased 14% in 1998 to US\$58 million [Castle 1999].

Companies that focus on cutting cost normally spend more money on operational applications and on infrastructures. Furthermore the choosen infrastructure must be a very cost effective one. In INFOKOM's case, the oil & mining industry, national banks and the financial industry fall into this category. However, in these areas, VSATs get tough competition from terrestrial leased lines, or from wireless terrestrial radio systems.

With the emergence of the e-government era, in line with Indonesia's decentralization policy, many more VSATs are being installed to support government services, due to very limited and poor telecommunication infrastructure available. Internet access is also a driving force for provincial governments to immediately be served by VSATs, including through INFOKOM services.

VI. The Future of VSAT and Challenges for VSAT Operators

The demand for VSATs is still huge in Indonesia. It is based on the fact that in many cases there are no other alternatives available. However, the substitution infrastructures such as fiber optics, microwave radio, wireless systems, and VPNs

are becoming more available, especially in provincial capitals and district cities. Even the more advanced cellular mobiles or fixed wireless systems such as CDMA 1x, can be product substitutions for the VSAT. For example, major banks in Indonesia have long been served with VSATs for thousands of their ATMs. However, recent development in cellular mobile shows that these ATM terminals can use terrestrial wireless as their data infrastructure.

As discussed in the previous section, the VSAT market for the existing corporate environment can grow as long as the users want their strategic applications to be implemented in the shortest possible time frame. Other than that, the VSAT operators may choose one of the following strategies:

1. Jump to new markets
2. Focus on the specific applications
3. Combine VSAT with terrestrial services
4. Enrich VSAT services

Jump to a new market. Rather than take over the existing competitor's captive markets, which is not good, VSAT operators here in Indonesia must do their best to develop new markets. There are many emerging VSAT markets in Indonesia, such as applications for fighting the so-called "digital divide" with rural telephony, rural Internet services, reaching province administrations outside Java island and online systems for provincial banks. INFOKOM's experience shows that the market for VSATs outside Java is huge. INFOKOM has managed to support several provincial banks in their online banking and serve province administrations for their intranets using VSATs.

Focus on specific applications. There are many specific applications that are best suited for VSAT. Examples includes: broadcasting, telemetry, satellite news gathering, tele-education, gyro systems and out of spot vessel tracking systems. Despite low competition in this market area, the market size itself is quite narrow.

Combine VSAT with terrestrial services. Instead of competing with the terrestrial infrastructures, it is better to adopt and interconnect with them. Many VSAT operators have launched their own terrestrial services. Most of them develop their own and some of them cooperate with the existing terrestrial operator. We developed our own wireless VPN (Virtual Private Network) using terrestrial radio systems combined with cellular mobile-wireless networks. These two systems are integrated with Broadband VSAT IP that makes them an ubiquitous wireless VPN-IP service (see Figure 4).

Smartcom VPN - IP Network Services utilize VSAT Network, Wireless Network and CDMA 1x Network, it gives ubiquitous and secure Telco services coverage throughout Indonesia

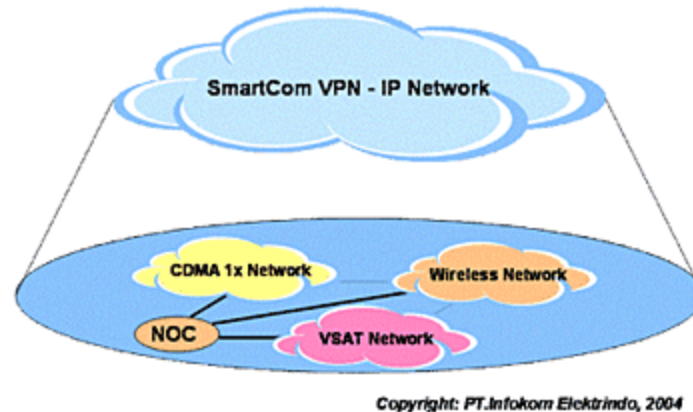


Fig. 4: INFOKOM's VPN-IP solution

Enriched VSAT services. Another way to leverage VSAT growth is to enrich the VSAT services. We have proven this approach at INFOKOM. Customers are now seeking what is called a "Total IT solution" in which they need to know what is the best application for their corporate purposes, which LAN technology is the most suitable for them and what telecoms infrastructure they really need. Adding consulting services in the telecommunications and IT area to the current VSAT services is a path VSAT operators can opt.

In summary, VSATs can play a significant role in corporations in terms of supporting their strategic applications, and for operational applications as well. However, as the strategic applications become operational, the VSAT solution is sometimes challenged. In that case, to leverage their VSAT services VSAT operators need to adapt their strategy accordingly.

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