

ECLICKTICK CORPORATION WHITE PAPER

Selling next generation networks

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Executive Summary

Recent events in the telecom industry – the dotcom bust, accounting problems, drops in demand, decreases in market valuation, excessive leverage, decreases in capital spending – make the telecom market more difficult to sell to. However, the fundamental trend towards use of the Internet for increasing productivity, towards increased use of wireless and the development of integrated information processing, content delivery and telephony applications remains a strong secular or long term trend.

Sales innovation will be required to obtain sales in this new harsher market. This white paper addresses some of the innovation that is required. A key piece of innovation required for vendors is the trend towards (1) the use of advanced business cases for justifying sales of new technology, and (2) a switch towards the total **value** of opportunity (TVO) away from simplistic measures such as payback and ROI, or even total cost of ownership (TCO). Total cost of ownership is frequently meaningless if marketing success is missing. Or to put it another way, replacing obsolete technology with less expensive, more flexible technology doesn't work unless the market is there for the service.

The following table summarizes a survey of senior executives at US companies. The numbers suggest business cases are critical to selling to practically all companies and the larger the project, the more likely a business case will both required and helpful.

Table 1: Use of Business Case Analysis for IT Infrastructure Projects is Pervasive

Minimum Project Size Requiring Analysis	Percentage of Companies Surveyed	Cumulative
\$5 million	1%	100%
\$1 million	6%	99%
\$500,000	1%	93%
\$250,000	5%	92%
\$100,000	16%	87%
\$50,000	15%	71%
\$25,000	10%	56%
\$10,000	6%	46%
All projects	40%	40%

Source: Forrester Research Inc. survey of 204 senior executives at US companies. December 2001. Reported in ComputerWorld, July 1, 2002, p.42.

A tactical reason for business cases is the very practical one that sales people who understand the economics of their clients are in a better position to (1) sell the right solution, (2) structure a pricing deal that is win-win for both firms. A typical problem in the current environment is the reluctance to approve capital expenditures, no matter how good the business idea. Solutions that can be structured as operating expenses, leases or

financed on the basis of usage will typically have shorter sales cycles and lead to fewer missed opportunities.

Understanding the usage and cost patterns for a client also makes it easier to propose out-tasking, out-sourcing, co-delivery or other innovative relationships.

However, the term business case is a broad one. Key insights about business cases, that those working with network service providers need to understand, include the following:

1. A business case should be more than doing a net present value and ROI on a cash flow. It should help users of the business case understand the key drivers that produce results, the areas of uncertainty and the value of reducing uncertainty.
2. Business cases can and should be done at different levels of detail. In the early stages of analyzing a project, it may be a waste of time to pursue huge amounts of accuracy. The early business cases may just highlight the key assumptions that need to be validated.
3. A business case ideally should be able to be examined over a range of outcomes and assumptions to understand the sensitivity of the model to different areas of the business case.
4. In the complex world of large network services, a business case should be able to examine portfolios of infrastructure, services, customers and pricing.

Another reason for use of a broad business case as a sales tool is the relative importance of the various issues that drive a business case for a network services provider. If we examine the key drivers of a business case, they will typically fall into the following ranges:

Risk area	Size of error or range of outcomes	Assessment of business case factor
Technical capacity utilization and scalability issues.	2-4X	Tends to be solved over time with the decreasing cost of hardware e.g. Moore's Law. Supplier experience and inter-operability certification and testing can help reduce risks.
Project management performance.	2X	Riskiest on first implementation so outsourcing and out-tasking are rational requests from customers.
Revenue projections.	5X	Risky without test marketing.
Marketing and sales costs.	2X	Relatively predictable, but may require skill sets not present in network services provider if specialty services are being developed. Partnering is a potential solution.
Marketing execution.	4-5X	Quality of execution does make a difference. Not doing market research is the leading cause of

		product failure.
Cost of capital.	1.5-2X	The cost of capital tends only to vary in highly volatile markets.
Project success	5X	Offering a high value differentiated products is the single largest predictor of success. Good marketing is key to success.

The above table highlights the fact that for network services providers, the issues surrounding business cases *are more likely to be business and marketing issues than technical issues*. It also highlights the importance for network services providers of using partnering with suppliers to reduce risk.

Introduction

Telecom suppliers are currently faced with the classic sales problem of selling to an industry that appears to be in a state of paralysis. The simple question that needs to be addressed is, “How do you generate sales in this environment?”

The answer to this question lies in the very problems that are troubling the telecom business. So, let’s first identify the problems:

- Overexpansion
- Competition
- Low profitability
- Paradigm shifts
- Risk avoidance
- Bureaucratic decision making

Overexpansion

The general problem that most companies have incurred is that they have over-expanded. The Internet Bubble caused a significant overinvestment in capacity expansion and acquisitions. Side effects of this overexpansion have been pressures on senior management to misrepresent the status of their business at companies such as Global Crossings, Enron and Worldcom/MCI.

The consequence of overexpansion and misrepresentation is that the cost of capital for telecom suppliers and service providers has increased. Financial hurdle rates for new projects need, as a result, to be higher than in the past. And compounding the problem, increased capacity lowers the value of traditional monopoly access privileges. In other excess supply drives down price.

In this period of changing evaluations and uncertainty about risk, publicly traded telecom service providers (NSPs) will be under pressure to communicate clearly both the drivers of profits in their business and the outcomes of such drivers. We can expect, based upon research by PriceWaterhouseCoopers (Eccles, Robert; Herz, Robert; Keegan, Mary; and Phillips, David: [The Value Reporting Revolution.Moving Beyond the Earnings Games](#), Wiley, 2000), that we will be seeing greater transparency in annual reporting. Eclicktick

predicts that firms will increasingly have to report information to public shareholders such as:

- revenues per subscriber
- churn rate
- percentage of profitable subscribers
- increased information by product line.

PriceWaterhouseCooper's research suggests that public companies which reveal the strategic drivers of their business will differentially attract investor dollars, lowering their cost of capital. This reporting approach will require the modeling of profitability by customer, by service, by product, by region and will require activity based costing modeling approaches.

However, merely understanding and reporting the sources of profitability is insufficient unless action is taken to change the network services provider culture in the direction of marketing and measurement. And the positive consequences to shareholder value are likely to be inadequate to compensate for the decline in shareholder value. Other steps need to be taken. These are addressed in the following sections.

Competition

Perhaps the most underestimated phenomenon in telephony today is the emergence of competition. Incumbent telephone companies are discovering that their management teams, business systems, measurement processes, decision support systems and marketing capabilities are far weaker than they had realized.

Major telecom research firms have tended to emphasize the strong competitive positions of incumbent telephone companies such as BT, Deutsche Telekom, the four major ILECs in the US and the importance of narrow band applications. And they are right. These are large firms with large installed bases of customers. But their own data on competition reveals a different story:

First, the incumbents are facing competition from landline competitors. These competitors have tended to target business users for the obvious reasons that they are easier to service, are more profitable to service and tend to be located in urban and dense locations. In the US for example, competitors to the ILECs are projected by Probe Research, a leading telecom research firm, to see their market share by dollars increase from 25% to 38% over the period 2000 to 2005. In the lagging residential market, these competitors are also increasing their market share from 4 to 13% over the same period.

Second, the incumbents in the US are now facing rapid growth in competition from cable companies. Current estimates of the number of lines in the US for cable companies are at the level of 3.9M lines and growing at between 40 and 200% depending upon the period of analysis. It would not be unreasonable to see as many as 21M cable telephony lines by 2005 in the US.

Third, and perhaps most importantly, local exchange carriers in all markets are facing their most significant competition from wireless vendors. In most local markets, wireless competition is assumed and a local incumbent is unlikely to have more than 20-25% of the local wireless market. So, while local line market share has been dropping for incumbents, the major area of rapid growth in lines has been in wireless. Probe Research projects that 47% of phone calls by 2005 will be made on wireless lines in the US. When this fact is combined with the European general assumption that 80% penetration of cell phones is the end state for telephony, it is clear that the role of the cell phone as a personal communicator is a significant change in customer communications and will affect all aspects of telephony in the next five years.

If the US were to reach 80% penetration by 2005, then there would be a 50% split between land and wireless lines, but perhaps more importantly, there will be almost twice as many wireless phones as home and business fixed lines. Whether the 80% figure is reached or not, wireless is here with a vengeance and changes the assumptions about all services, the relationship of users to their various phones, and the opportunity for value added services and content. To date, wireless based data services have been less successful in the US and Europe, but this may change with the introduction of GPRS data services in 2002 in the US.

Table 2: Phones Lines in the US Over A Five Year Period

Year	2000	2005	% Composition 2005
Wireless lines	108.8	228.8	50%
<i>Residential lines</i>	125.5	128.8	28%
<i>Business lines</i>	74.2	100.7	22%
Total fixed lines	199.7	229.5	50%
Total lines	308.5	458.3	100%
US population (M)	281.4	286	
All phone lines per head of population	1.10	1.60	
Business lines per head of population	0.26	0.35	
Residential lines per head	0.45	0.45	
Wireless lines per head of pop	0.39	0.80	

Source: FCC and Probe Research; 80% penetration of cellular phones is shown to demonstrate impact upon US market.

Low Profitability

The fundamental economic characteristics of the telecom industry are that the industry is a high fixed capital cost game. If you get your fixed costs wrong, you will be below breakeven and, therefore, unprofitable. The goal for all vendors in a high fixed capital cost game is either to reduce costs (often transforming fixed costs into variable costs) or to increase revenues.

An alternative strategy is reduce the quality of your service e.g. through reducing maintenance costs, accepting a higher rate of call failure (e.g. in wireless) or to pursue technical strategies of lower reliability. In a competitive market place, these alternative strategies tend only to work in the short term.

So what do you do to improve your profitability if you are capital constrained and have too much debt? There are a number of choices:

1. You can alter the mix of your services to focus upon creating customers that are more profitable to you. This approach can involve changes to pricing and changes in marketing and sales emphasis. For a typical incumbent telco, this approach will typically focus upon selling additional services to the same customer. Enhanced telephone services such as voice mail, integrated messaging, call forwarding, IP Centrex are services that might fall into this category. Understanding the incremental profitability of sales to existing customers is key in this task.
2. You can reduce your costs by outsourcing or sharing activities where your cost structure is too high.
3. You can sell off unprofitable businesses.
4. You can introduce innovative new products that are less capital intensive, perhaps by partnering with specialist firms or content providers.

Eclicktick Corporation predicts that in the current environment of capital budget constraints, there will be a significant switch towards telcos relying upon service revenues that they distribute to their telephony clients, in other words a move away from vertical integration. These services could be classified as:

1. Specialty communications ASP services.
2. Shared facilities services.
3. Content and value added mobile services.
4. Integrated information processing and telephony services that combine the capabilities of IP telephony and more traditional IT and content services.

Incumbent telephone companies have typically not been as successful in capturing portions of the value added telephony streams. Their market share in this category continues to fall as new specialty vendors have entered the market. In the US, over the period 2000 to 2005, the share of IP services captured by incumbents is projected by Probe to fall from 48% to 35% of the market, if we take narrowest definition of value added IP services. A broader definition would show even lower share in the single digits for incumbents.

Paradigm Shift

The 21st century next generation network market is characterized by a number of significant paradigm shifts, not all of which appear to be obvious to everybody.

Shift 1: Increasing number of points of contact with individuals e.g. home phone, home voice mail, home e-mail, home hardware, office voice mail, office hardware, office email, cell phone, cell phone e-mail, PDA.

Shift 2: Increased intelligence in all devices: PCs, PDAs, cell phones, integrated cell phone/PDAs, and a variety of appliances.

Shift 3: More choice in telecom spending leading to the emergence of radically different consumption profiles and the need to segment markets.

Shift 4: The need for simplicity to deal with the increasing complexity of choice.

Shift 5: The development of networked applications that can communicate with increasingly intelligent peripherals through a variety of networks.

Shift 6: A trend towards providing personalized and integrated services that combine traditional data processing, content delivery, purchasing and telephony functionality.

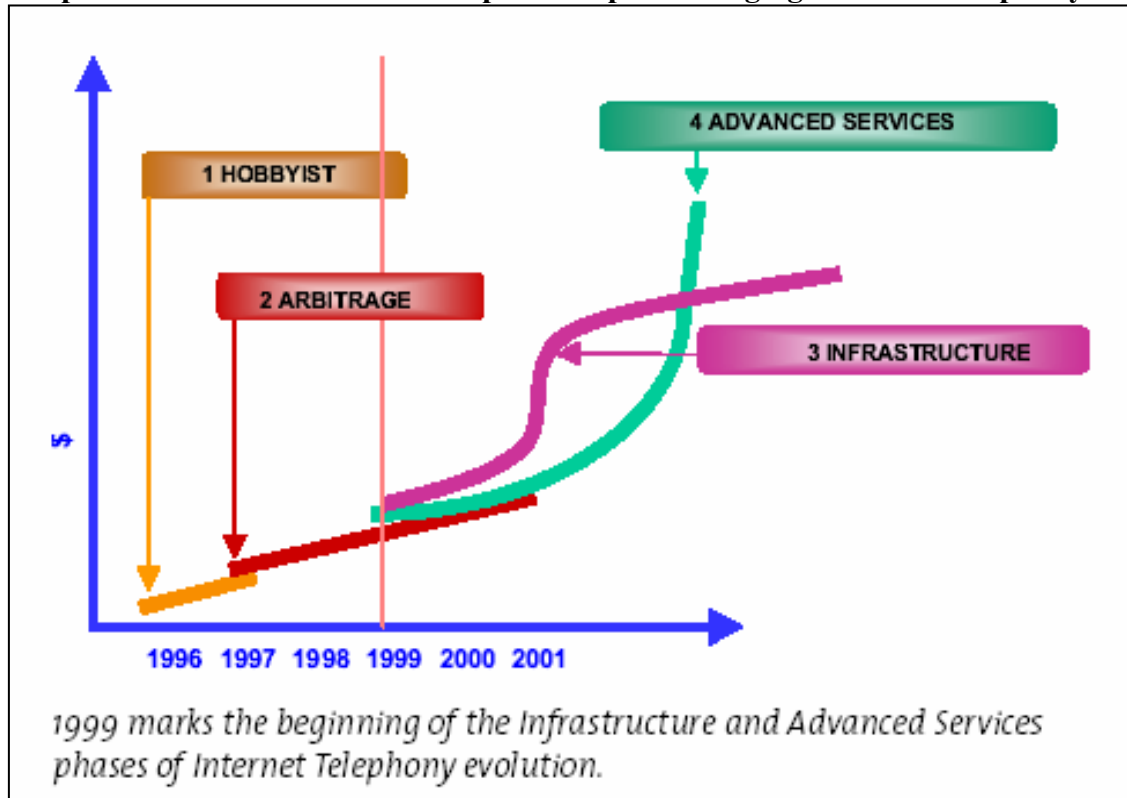
Shift 7: Next generation networks involve more decisions – more decisions about which services to offer, which segments to sell to, which architecture to pursue, which suppliers to select, which system integrator to permit to tie the various technologies together.

The consequences of these shifts are that traditional view of telephony markets, predicated upon universal service and average costing based upon being a fully integrated telecom suppliers are impossible to sustain. Take for example, financial services or content delivery. Telecom vendors are intrinsically incapable of competing with the publishing or film industry. At most they can provide a conduit for such services.

This shift means that for the first time, telecom vendors must manage not only their networks but also supplier relationships with other firms that wish to make money off their network. They are now a channel of distribution and must develop programs to promote their network and encourage the emergence of an ecosystem of suppliers who can create attractive businesses off both the new mass market and specialty business services.

The following graphic illustrates the emerging transition for next generation network services providers. While many are grappling with the issues of where and how to replace circuit switched telephony with IP based telephony, the next generation of revenue enhancement is likely to come from advanced services, or services that network services providers are likely to have less experience in delivering.

Graphic 1: Nortel Networks Conceptual Map of Emerging IP Based Telephony



Source: www.nortel.com

Cable companies have experience in this type of relationship, but historically in a monopoly situation. They, too, will have to innovate in their relationships with a wide variety of suppliers. Telcos have less experience in this space. And the future of 3G, particularly in Europe where NSPs overpaid for licenses, is to a large extent going to be financed by content and service suppliers, not by telecom operators. In fact, 3G will only work if telecom vendors actually permit the emergence of a profitable industry that makes money off them. If they attempt to use their market power to capture all of the profits, the value added services will not be incented to develop new markets.

Risk Avoidance

When businesses are in financial trouble, their immediate reaction is to cut back. Incumbent telcos who do cut back are likely to fail. They need to have a clear strategic vision of what parts of their value chain they are good at and what parts of their value chain need to be created by third parties.

The temptation will be to focus upon cost reduction at the expense of revenue creation. But because future telecom service providers will increasingly be dependent not upon commodity local services (available through cable, wireless, broadband and specialty wireless services such as 802.11b) but rather on the value added services, telcos will be forced to innovate in ways that they are unaccustomed to addressing.

In this high risk environment, telcos will have to make it attractive for third parties to market their services. An Arthur Andersen study for the European Union (Digital Content for Global Mobile Services, Final Report, February 2002) identified that owners of 3G systems will have to ensure a high revenue split with content providers otherwise the size of the 3G market will be insufficient to justify the network roll out.

Another key issues for network service providers will be increasing their emphasis upon marketing. Introducing new services without paying attention to marketing has been one of the common reasons for failure in the dotcom rise and fall.

Network services providers need to remember the results of empirical research on new product introduction.

1. The single largest predictor of new product success is offering a customer perceivable high value differentiated product or service. Companies that are in the top 20% of this rating produce 20-25X higher economic returns than companies selling me-too products with undifferentiated value. They are 4-5 times more likely to succeed and achieve 5X higher market share.
2. The most common reason for new product failure is inadequate or no market research.
3. Value varies by segment, so network services providers need to research, test market and test pricing by segment for new services.

Suppliers to network services providers will have to (1) influence the service provider to take up such best practices, or (2) take over responsibility for developing new services for resale. Given that the impact of best practices in new services creation is empirically 20-25X improved performance, it more than compensates for the drop in shareholder value.

Bureaucratic Decision Making Behavior

All large companies tend to behave like bureaucracies. So how do you sell to a network services bureaucracy where managers are risk averse and frightened for their jobs. There are ten key rules:

First, stop selling *technology*.

Second, *sell business opportunities rather than technology*. These opportunities have to be structured as business cases that demonstrate not just individual service opportunities but also permit modeling the dynamic relationships between market segments, services, pricing, equipment and infrastructure, capacity utilization, activity based costing and various types of profitability. Depending upon the analysis, this type of analysis will lead to services arrangement, projects or product sales.

Third, structure relationships so that network services providers can try next generation based network services *at low risk and commitment*. This approach will often require test markets and also testing pricing sensitivity with end users.

Fourth, use usage-based pricing, leasing, co-delivery, out-tasking, and outsourcing to reduce current period or perceived capital costs for network services providers and just as importantly to *reduce their perceived risk*. Many vendors have been caught in the telecom downturn with customers unable to pay back vendor financed projects, so it clearly makes sense to focus upon services that can be sold to multiple network services providers. With such a strategy, capacity devoted to a customer can be moved or used to service competitors if the initial customer has a financial problem. Having projects driven by end users, also reduces a good of risk.

Fifth, move from a sales-oriented business approach to a partnering business approach where suppliers and network service providers *share information* in order to plan, manage and quickly optimize new businesses.

Sixth, recognize that in an uncertain market, suppliers will be forced to take more risks and they too, must use business case analysis, testing marketing and in some, shared risk sharing with other complementary vendors to obtain trial or proof of concept sales.

Seventh, it's important to identify sponsors in the bureaucratic organization who have sufficient authority and power to recognize and respond to the new environment. Only visionary leaders able to look across functional problems will be able to turn around problem network services providers. Technical purchasers and standards setters will not likely be the key decision makers in the emerging advanced services environment.

Eighth, it's important to start small and show big wins early. Large visions of technology success rarely succeed. Early wins and early profitability are the most powerful way of influencing any large organizations.

Ninth, measurement is key to organizational change. Eclicktick uses a six stage model of selling:

1. Time to qualify
2. Time to close
3. Time to competence
4. Time to productivity
5. Time to repeat purchase
6. Time to branding

“Time to qualify” measure how long it takes to filter out the real potential buyers of a product or service. “Time to close” measures how long it takes to get the

check cleared from the initial contact. “Time to competence” measures how long it takes for the customer to become competent with what has been sold. “Time to productivity” measures how long it is before the customer’s senior management recognizes the value of the decision they have made. “Time to repeat purchase” measures how long it takes before an additional purchase is made.

“Time to branding” measures how long before your brand becomes the “Nobody ever got fired for buying from SupplierX” value proposition. Sales programs need to be put in place, that address each stage of the sales cycle in order to accelerate sales and repeat sales.

Tenth, suppliers have to sell what the customer needs, not what they wish to sell. And in the current environment, *telecom suppliers are selling new profits*, not technology, not features, not systems integration, not consulting.

The Source of Innovation

Many technically oriented managers are surprised to learn that innovation is frequently driven by customers not by technology. Eclicktick suggests that in the current environment, many of the drivers of future telecom revenues will come from enterprises. In many cases, they have a significant opportunity to use information technology and next generation networks to radically alter the economics of their business.

Harvard Business School professor Robert Nolan writes how next generation oriented information systems help CISCO to obtain a \$1.3B return on a \$135M investment in developing integrated back and front end sets of information systems (Nolan, Richard: *Dot Vertigo: Doing Business in a Permeable World*, Wiley, 2001). This kind of return will continue to motivate the enterprise customers of network service providers to innovate in their use of IT and next generation telephony networks. These types of enterprise projects will drive innovation through the infrastructure of network services providers.

At the same time, the consumer market with its adoption of 802.11b wireless networking, home entertainment hubs such as the next generation Xbox, digital VCRs such as TIVO, DVD recording, video on demand is likely to be surprisingly buoyant to those who have written consumer markets.

What Kinds of Return Should the Telephony Industry Be Looking For?

Financial people and strategic thinkers are likely to differ over this question.

For the financially oriented manager, the question is easy to answer, projects must return more than the cost of capital for the project. In 1998, the FCC projected the cost of capital of telcos at around 11.25%.

(http://www.fcc.gov/Bureaus/Common_Carrier/News_Releases/1998/nrcc8068.html) A J.P. Morgan Chase review of the performance of AT&T and its various spin offs suggests that an investor in AT&T would have made approximately 12% annual return over the

period if 1984-6/2002. (BusinessWeek, July 8, 2005, p.105). And while the incremental cost of capital for a major network services provider may be significantly higher, any increase in cost of capital would be quickly outweighed by success in improving customer profitability due to the fixed capital cost characteristics of most networks.

For the strategically oriented manager, the question is slightly more complicated. Pursuing innovation is often a more difficult process that requires learning, so the early projects in an innovation life cycle may have different justifications. They may be the projects that will enable later projects to be successful and will educate managers about what works in new markets. Eclicktick's framework for business case evaluation suggests that there are three types of technology projects:

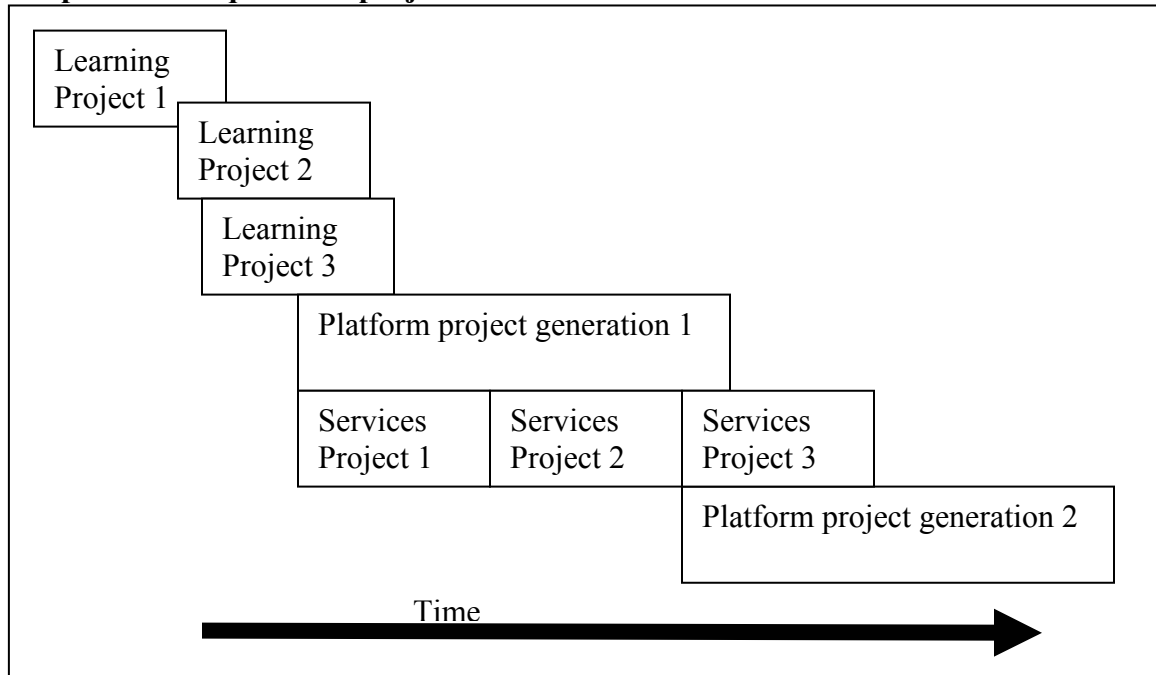
1. Learning projects.
2. Platform projects.
3. Product/service projects.

Learning projects have a limited objective and a short time frame. They are designed to produce learning about a technology, a market or a service and its pricing.

Platform projects are enabling technologies. By themselves, platform projects don't make sense. They only make sense in that they enable projects which will generate revenues. Evaluating a platform project is always a strategic decision and often is based upon a stretch performance goal where a company is seeking a major jump in performance, or upon a new technology that offers the promise of dramatically improved performance (cost, flexibility, quality, performance level).

Product and service projects are the easiest to implement because they are based upon the Type 1 and Type 2 projects. However, predicting their success at an early stage in the innovation life cycle can be very difficult, which is why test marketing and "learning projects" are some important.

Graphic 2: A sequence of projects with different characteristics



The Importance of Skills and Knowledge

But perhaps even more important than the technical side of innovation is the human side of innovation. Network service providers such as telcos have historically been some of the largest organizations on the face of the planet. And like all large organizations they have had historically the luxury of owning most of the expertise necessary for running their business.

But the impact of deregulation on local service, the emergence of competition, and the more varied nature of both suppliers and technologies in a packetized world change the rules of the game for skills and knowledge. Network services providers now cannot maintain all of the expertise necessary for running their circuit switched network, developing their new replacement packetized networks, and developed new and advanced services at the leading edge of business and technology.

This trend is summarized in Davidson’s Law of Outsourcing: “Increased computer usage trumps technology standardization.” Its corollary is that “Customers buy expertise first and commoditized standards-based technology second.”

Explanation: since the 1980s, software development projects and information management projects increasingly involve integration of technologies. With the emergence of new requirements such as packetized next generation networks, ERP (enterprise requirements management), extra-nets, e-commerce, security and authorization issues, evolving and competing standards and a high rate of change and unpredictability about supplier success, very few companies can afford to keep on staff

all of the expertise that is necessary to build information management and next generation networking projects.

As the complexity of projects increases, the natural reaction is to turn to pre-built components, packages, or services that can be combined to reduce the internal learning curve and knowledge requirements.

However, the sheer variety of issues that need to be considered with integrating information management projects is so high, that merely understanding the business problems and objectives, documenting the requirements and managing the project is a complex task of itself.

Suppliers are increasingly being paid for insight and expertise rather than for the tools that they provide.

So while standardization and standards do reduce complexity, the need for insight and expertise remains high and can command premium profits. In a recent press release, IBM reported, for example that in 2002, the percentage of its business services profits attributed to “business insight” rose from 10% in the prior year to 17%. While the term “business insight” as a term, is a little vague, it is clear that many experts in the field believe that the value added from technology comes from deciding where to improve your business not from the technology itself (e.g. Davidson, Gellman and Chung, *Riding the Tiger*, Jist Publications, 1999).

Economically, this complexity typically causes large projects to be high risk. It is quite common for surveys of large projects such as ERP, information warehousing or CRM to report low rates of success and poor ROI.

Eclicktick experience suggests that it is not uncommon in post-audits of projects to learn that 50% or more of a project was wasted effort or budget. Given that the margin of most consulting projects is less than 50%, it is frequently lower risk to hire someone who has done the project before.

And if cumulative experience is important, then the advantage of contracting out to a network services providers can be very attractive. In the following table, a project is profiled where there is a 20% cost advantage due to project learning quickly produces very rapid economic advantage to both the supplier and the network services provider as a customer:

Table 3: Example impact of learning upon project costs

Projects	Initial Project Cost
1	100%
2	80%
3	64%

4	51%
5	41%
6	33%
7	26%
8	21%

Portfolios, Scenarios and TINA

As the world is an uncertain place, management approaches to dealing with risk and uncertainty are critical in selling to companies challenged by events.

There are three rules of thumb here from best practices in management;

1. It is frequently important to place several bets. While there are clearly important benefits to the focused strategy, large organizations often don't have the luxury of pursuing one service, one segment and out pricing model. Having a portfolio of initiatives can, if managed well, provide major lessons about the economics of markets, costs of sales and marketing and customer emerging needs. Portfolios exist in at least three meaningful senses for the network services provider:
 - a. Infrastructure (e.g. wireless, cable, wireless broadband, fixed line)
 - b. Services (basic voice, enhanced services, long distance, data services, advanced services)
 - c. Customer type (e.g. by residential segment, by business segment, by reseller type e.g. xSP).
2. Developing scenarios about the evolution of the economy allows planners to look at the consequences of proposed strategies and telecom infrastructures over a range of futures. Evaluating proposals across a range of possible futures will often cause a network services provider to change the mix of infrastructure that they might build. Uncertainty will tend to encourage the use of general purpose networks such as packet-switched networks that can be reconfigured for different purposes.
3. Some trends are not at issue. Shell, the inventor of scenario analysis uses the term TINA – “There Is No Alternative To”. So for example, in the world of networking, it is there is no alternative to the idea that general purpose computing hardware is on a faster cost descent curve than specialty telecom hardware. Like mainframe vendors, specialty PBX and switch vendors are discovering that that it is increasingly difficult to compete with the dramatic impact of Moore's Law.

Table 4: Example of How Scenario Analysis Interactions with Portfolio Mix

	Portfolio Mix A	Portfolio Mix B	Portfolio Mix C	Portfolio Mix D
Scenario A				
Scenario B				
Scenario C				
TINA				

The implications of Table 4 are that increasingly simplistic ROI projections are inadequate as a tool for influencing senior managements at network services providers or at their enterprise customers to make investments in next generation networks. A more comprehensive approach is required that addresses not just the total cost of ownership of a project or technology but rather the value of the project or total value of opportunity (TVO).

However, in order to minimize sales costs, sales processes need to be engineered so that models of varying efforts, some custom, some semi-custom, some completely customized can be used at varying points in the development of a deep relationship with customers. As a general rule, the following stages will be required:

1. **A canned model** designed to interest a prospect. Changes to the model should take less than two weeks. The purpose of the model is to demonstrate the key parameters that drive success so that the prospect can decide to investigate its market in more detail.
2. **A market driven model** where the model is altered to reflect the market sizes and installed bases of the prospect. This model sizes the opportunity for the prospect and may trigger an initial purchase of geographical model with data about the network and customer locations.
3. **A customized model** that takes into account the available market and installed base of customers tied to specific geographic information about the prospects network.
4. A more **portfolio oriented model** where prospects commission a model that allows them to look at the tradeoffs in marketing, services portfolio, infrastructure choices and pricing variants.
5. A **decision support model** where operating data from multiple sources is combined into an integrated model with plan and actual data.

The Strategic Sales Implications

This white paper has argued that:

1. Business cases are a key tool in justifying new investment in next generation applications.
2. Enterprises can gain large payback from next generation applications.
3. Network services providers need to innovate with a broad range of technologies, but will have to work with suppliers and customers to create new revenue streams.
4. Increasing revenues per customer is the key driver of success for network services providers.
5. People and knowledge are critical to successful generation of new businesses that will generate new revenues.

What then are the implications for the kinds of business case analyses and sales processes that a large supplier to network service providers must undertake. Eclicktick recommends the following execution strategies:

1. Sales processes need to be focused on increasing customer knowledge. Having a pre-built business case model can often be the “hook” that gets prospects or customers motivated to investigate an idea that they might otherwise have rejected out of hand.
2. Suppliers need to think in terms of acting *on behalf of* customers rather than selling quotas. In a world where hardware and software is increasingly commoditized, relationships with customers are a meaningful source of differentiation and are key to winning business. Customers are extraordinarily rewarding of suppliers who come to them with ideas that they make them look good.
3. Suppliers need to invest in creating superior knowledge through benchmarking, market testing, inter-operability testing to increase the value of the relationship they provide to customers.
4. Suppliers need to measure both their cost advantage over their customers and also the value they bring to the customer. And then they need to communicate that value. Customers will pay premium pricing for superior value propositions. Good customers have been educated as to the value of service that they are paying for.
5. Innovation means having great people. There is an enormous difference in high technology products between the merely competent and the inspired. Great people may cost 50 or 100% more, but they produce at 1000% more.
6. Training makes a huge difference. And companies don’t do enough of it. Toyota is renowned for its training – even janitors get 14 days of training per year.
7. Large projects are intrinsically risky. A vendor should always phase its projects so that it can demonstrate success quickly.

Project Strategies

With a new technology like packetized telephony and next generation networks, selection of projects and managing expectations about projects are critical in building a successful brand as a supplier to network services providers and to their end user customers.

There are three basic strategies;

1. Reactive
2. Proactive
3. Learning oriented

Reactive Sales Strategies

A reactive approach to developing sales revolves around responding to client requests for information, requests for proposals, slightly modified by the ongoing sales activities of account teams.

The upside of this approach is that resources are clearly focused upon projects that prospects are signaling interest in. However, the downside is that clients may, in the early stages of a technology shift (1) be shopping for information, (2) may have prejudices about a particular supplier whom they will talk to, but don't take seriously, (3) may not go ahead with the project, triggering massive wasted efforts at the supplier in expensive responses to proposal requests.

To avoid the negative outcomes, a supplier needs to (1) document the attitudes and beliefs of its prospects to avoid being frozen out of project for actual or erroneous reasons, (2) needs to have a formal set of rules for responding to RFIs and RFPs (e.g. don't bid if 20 companies are invited), and (3) needs to proactively compensate for any negative attributes perceived by prospects.

Proactive Sales Strategies

Proactive sales strategies are often perceived as being very risky in large organizations because they require decisions being made early in a life cycle. However, as Professor Robert Sutton, professor of innovation at Stanford's engineering school suggests: "Punish inaction not failure." In the early stages of a market, it's important to be learning faster than the competition and suppliers learn quickly from failures. Lots of innovation will produce lots of failure, but it will also produce more and faster success.

The problem with proactive strategies is that they are often decided upon by senior executives rather than as a result of a more formal new product process. And the empirical data suggests that support of senior executives is important, but does not affect the probability of project success. In contrast, multi-functional teams and a disciplined multi-stage evaluation or stage-gate process does correlate with higher success rates and higher market shares.

In practical terms, this means that suppliers must think in terms of picking some "lead goats" or products that will establish the supplier brand and provide a framework for discussions with clients that may lead to deeper understanding of their business.

Learning Oriented Strategies

Perhaps the most important insight about the paradigm shift in next generation networks is that it is a race – one where increasing your lead over the competition is the goal and where the lead must increase in every period.

In other words, in terms of the quality improvement programs, a firm must not focus just upon the strategic advantage it has today, but upon what it can do to continually improve the advantage. It is the rate of increase of the competitive advantage that is key.

Measuring and improving this advantage can be done at the strategic and at the operations level:

At the strategic level, it means deciding what is critical to the value proposition and just as importantly, what is not critical. For most firms, admitting that something is not critical is the hardest task.

At the operational level, it means deciding what elements of the value chain should be structured for an order of magnitude leap in performance.

But from a learning perspective, it means that the management team must be wise enough to focus not just on project results, but on the *learnings that emerge from projects*. And most project management teams will normally be so focused upon delivery that measuring, benchmarking and capturing the process knowledge from projects will not be well captured. It will take senior management commitment for such learnings to emerge and be incorporated into the performance improvement strategy of the supplier.

Table 5: Increasing project value to the customer tends to have the most impact upon projects

Learning Parameter	10.0%	10.0%	10%
Generation	Success Rate	Project Cost	Project Value Creation
1	20%	100%	100%
2	22%	90%	110%
3	24%	81%	121%
4	27%	73%	133%
5	29%	66%	146%
6	32%	59%	161%
7	35%	53%	177%
8	39%	48%	195%
9	43%	43%	214%
10	47%	39%	236%
Implications			
	Improve proposal writing. Gain better knowledge about prospects. There is a limit to how high the rate can go.	Track project learning. Benchmark. Encourage culture of innovation and learning.	Create tight feedback loops between projects and product improvement process. Document and improve delivery process.

The above table is an exercise that demonstrates the importance of learning in a rapidly changing technology. It projects the impact over ten projects of a 10% improvement in performance after each project for sales closing, project cost and project value creation.

Sales Success Rates

Taking each column one at a time, if you start off with a sales success rate of 20% - the kind of success rate you would expect with four major competitors if you are at product parity – then a ten percent improvement in success rates would have a dramatic impact upon a company.

Assume for the sake of argument, that a typical project proposal costs \$250K to assemble, that a typical project is \$5M, and the typical margin on a project is 20%. With a 20% success rate, a company would start off spending \$1.25M to pitch five projects with a total revenue opportunity of \$25M and a total pre-tax profit opportunity of \$5M. At a 20% success rate, the loss would be \$250K.

Table 6: Comparison of the impact of close rates on profitability

	Low Close Rate	Improved Close Rate
Average project proposal writing cost	\$250,000	\$250,000
Average project size	\$5,000,000	\$5,000,000
Success rate	25%	47%
Amount spent on proposal writing over 5 projects	\$1,250,000	\$1,250,000
Project profitability	25%	25%
Expected value of profits obtained (probability X margin per project won)	\$1,000,000	\$2,350,000
Overall profitability	(\$250,000)	\$1,150,000

However, practically there is a limit to the rate of increase of a bid process. First, there is always a shortage of good people. And second, if a supplier is very successful, it inspires imitation. In market share terms, it is very hard to maintain a market share greater than 60% and achieving a high success rate on bids is very much a function of the ability to *deliver superior value and obtain faster learning than competitors*. So let's turn to these two issues next.

Project Success Rates

How do you increase your sales success rate from e.g. 20% to 47%? One answer to this question is to gain more experience than the competition so that you can deliver a project at lower cost. With a ten percent learning per generation of project, there is a dramatic change in the price at which the project can be bid, which should presumably lead to a higher sales success rate.

Assume for the sake of argument that the supplier decides to split the learning with its customers in order to increase its value proposition and by doing so, its sales success rate. By generation ten, the customer is offering the same project at 70% of the cost of the initial project and has higher margins than it did early in the life of the technology.

In a highly commoditized market, pricing pressures however, may reduce the ability of the supplier to obtain premium pricing. And if the supplier has a larger competitor, it too may share its learning with customers driving down overall prices in the market. This strategy – a learning curve strategy – clearly works best for the two largest players in the market.

Project Value Creation

Perhaps the most interesting numbers in the table are the value creation numbers. Here the assumption is that with excellent management and adroit investment, each generation of a project should lead to learning. If such learnings are captured, incorporated into the project and product improvement process, then over time, the impact of learning is the single most important variable an organization can capture.

In this example, a ten percent improvement in value (independent of sales success and the learning from cost reduction), dramatically increased the value of the supplier offering so that after ten generation the value has risen from the initial value proposition (described as 100%) to a level that is 136% percent higher (at 236%) that the starting position.

This kind of improvement in value proposition is closely correlated with product launch success and market share capture.

Empirical research suggests that companies in the top 20% of customer value offering have a five times higher success rate in terms of product launch than those with products rated in the bottom 20% (i.e. me-too, undifferentiated products). And they achieve a five times higher market share (55% vs. 12%). (Robert Cooper, *Winning at New Products*, Perseus, 1993 and various subsequent publications published over the past decade.)

Overall Sales Strategies

In a period of change, sales strategies need to change.

Eclicktick recommends that selling to network services providers be treated as a complex task where profitability and market share increases will only come from a targeted sales effort based upon a broadly skilled sales team.

The post dotcom boom hangover will cause purchase rates to be lowered in the short term (2002-2003), so setting realistic sales goals is important in this period. Obtaining trial of solutions designed to test scalability, market acceptance and pricing is likely to be the best way of building sales in the 2004-5 range.

Alternative strategies such as accepting the commoditization of hardware, storage, software and specialty software products is likely be unprofitable. But more importantly, selling loss making deals in the current environment does not automatically generate a competitive advantage in the future.

While margins from hardware sales tend to be associated with large market share, failing to obtain the margins associated with systems integration, consulting and services will have two repercussions:

1. Commodity based firms will have difficulty attracting new investment.
2. Commodity oriented firms will have difficulty retaining the human talent necessary to make commodity products work together.

In contrast, companies that focus their efforts on a learning model of sales and performance measurement will generate:

1. Better and more intimate relationships with network services providers.
2. A better understanding of the economic drivers of profitability within network services providers.
3. The kind of data necessary for risk reduction in provider services to be resold through network services providers or in pilot and outsourcing projects.
4. New business ideas where suppliers can use their own economic advantages to develop enhanced services that network service suppliers may not be able to economically justify.

For more information on Eclicktick Corporation and its consulting and business development services or on its thought leadership, books and white papers, please visit <http://www.eclicktick.com>, or contact:

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Appendix 1: Risk Management

The following table taken from ComputerWorld, July 8, 2002 based upon a 2000 Survey of 130 mid-size and large companies by the Institute of Internal Auditors Research Foundation and Towers Perrin profiles the type of risk management tools used by the surveyed companies:

Risk Management Approach	Percentage
Risk mapping of individual risks (such as using frequency and severity maps)	75%
Risk-assessing workshops	70%
Pro forma financial modeling	44%
Scenario planning	41%
Economic scenario generation	31%
Monte Carlo simulations	30%
Probabilistic simulations	30%
Management dashboards	28%
Catastrophe modeling	20%
Behavior modification incentives	16%
Optimization software	14%