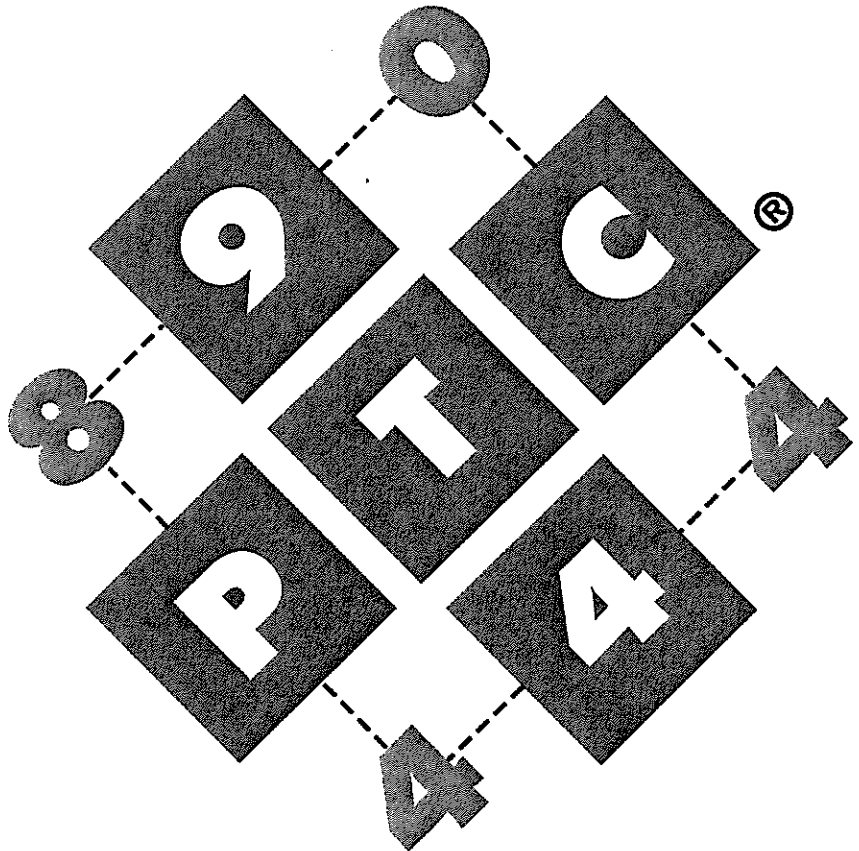


**Pacific  
Telecommunications  
Council  
Sixteenth  
Annual  
Conference**

# **Session Summaries**



January 16-20, 1994  
Sheraton Waikiki Hotel ♦ Honolulu, Hawaii

#### **M-4.3 Telecommunications Sector Reform in Asia: Toward a New Pragmatism**

**Peter Smith**, Senior Telecommunications Policy Specialist, Telecommunications and Informatics Division, The World Bank and **Gregory Staple**, Attorney at Law, Koteen & Naftalin, *USA*

Can the Asia-Pacific region's telecommunications sectors keep pace with the region's growth and expansion? The speaker maintains there is some reason for optimism. It is recognized that past inattention to telecoms has cost Asia's poorer countries dearly. This has prompted nations as different as China and Sri Lanka to assign a high priority to telecoms infrastructure development. While the impact of these new initiatives may be profound, the speaker outlines important ways in which current policy initiatives must be broadened and deepened if they are to be truly effective.

#### **M-4.4 Improving International Telecommunication Services in Areas Requiring Network Development**

**Masanori Saitoh**, Assistant Director, International Affairs Department, Kokusai Denshin Denwa Co., Ltd., *Japan*; **Victor Nezamutdinov**, Vladivostok State University, *Russia*

Focusing on the example of a Japan-Russia Joint Venture operating in the Russian Far East, the speaker describes how some countries seeking to rapidly develop their telecoms infrastructures are circumventing the traditional multilateral official development assistance process by using a more directly commercial build-operate-transfer model (BOT) with a commercial partner. As the system develops, the commercial partner will gain a portion of the revenue and both sides benefit from the accord.

### **M-5 REGULATING THE TELECOMMUNICATIONS INDUSTRY IN DEVELOPING ECONOMIES**

#### **M-5.1 Regulating the Telecommunications Industry in Developing Economies**

**Michael D. Gertler**, Consultant, Denton Hall Burgin & Warrens, *Hong Kong*

The speaker analyses developments in telecommunications regulation in China and elsewhere in the region. A stable regulatory environment is crucial to telecoms development. But telecoms regulation is itself influenced by political, institutional, economic, and social factors. In countries where telecoms development has been rapid, existing regulatory structures are often complex, include conflicting competencies, and may be poorly adapted to a modern telecoms system. The speaker focuses on the interrelationship of regulatory reform and telecoms development.

#### **M-5.2 Development of the Telecommunications Sector in Less-Developed Countries: Investment, Regulatory and Personnel Challenges**

**Llewellyn "Lew" M. Toulmin**, Senior Associate, Booz, Allen & Hamilton, Inc., *USA*

Based on personal experience and research in developing and post-Communist countries, the speaker outlines the current challenges to telecoms development. Many countries are seeking to double or treble their telephone penetration within the next 7-10 years. This will require a total investment of over US\$ 140 billion, as well as a comprehensive set of regulatory reforms, human resource development programs, and a variety of innovative strategies.

#### **M-5.3 Doing Telecommunications Business in Developing Countries - The Legal Issues**

**Jane Levine**, Partner, Allen Allen & Hemsley, Solicitors, *Australia*

Telecoms development in the Asia-Pacific region has been most uneven, but the growth potential is enormous. The Asia-Pacific telecoms market should exceed US\$ 100 billion within the next five years. Countries such as China, Indonesia, Thailand, and Malaysia are expected to continue growing at a rate of 10-17 % a year. The speaker examines legal mechanisms that might be employed to achieve successful business relationships.

DEVELOPMENT OF THE TELECOMMUNICATIONS SECTOR  
IN LESS DEVELOPED COUNTRIES:  
INVESTMENT, REGULATORY AND PERSONNEL CHALLENGES

Llewellyn "Lew" Toulmin, Ph.D.  
Booz-Allen & Hamilton, Inc.  
McLean, Virginia USA

## 1. ABSTRACT

Development of the telecommunications sector is vital to national economic development in less developed and post-Communist countries. In most such countries telecommunications development faces three major challenges: investment requirements; sector and regulatory reform; and personnel, training and organizational problems. A detailed analysis of these three areas, with particular emphasis on the little-researched area of personnel management, shows that those countries that tackle these three challenges successfully will find telecommunications serving as a spur rather than a drag in the race for national economic development.

## 2. INTRODUCTION

Telecommunications are often called the nervous system of commerce and industry, without which no national economic development strategy can succeed. This paper provides an overview of challenges faced by non-industrialized countries in improving their telecommunications sectors, with a focus on three key areas:

- Investment requirements
- Sector reform and regulatory changes needed to incorporate private energies into the sector
- The little-studied area of personnel, training and organizational problems faced by less-developed telecommunications entities.

The first two areas are dealt with rapidly, since they are familiar to most telecom observers. The last area is dealt with in depth, since this area has not been well researched in the past.

## 3. INVESTMENT REQUIREMENTS

In 1984 the Maitland "Missing Link" report stated that "telecommunications should be regarded as an essential component in the development process." Currently most analysts agree that increasing phone penetration (usually measured in phone lines per 100 population) is both a cause and an effect of increasing economic development. Furthermore, there seems to be a ceiling of about 30 lines per hundred population below which it is difficult or impossible to reach industrialized-country levels of development, and above which virtually all the Western industrialized countries (including Japan) are located.

To reach this level will require a massive, rapid and efficient infusion of capital and construction expertise. In 1984 the

Maitland report estimated that a total investment of \$12 billion per year would be required to improve and expand the networks of the developing world. The current worldwide situation has been analyzed by Dr. Timothy Nulty of the World Bank, who estimates that:

To have a chance of reducing the gap between themselves and the industrialized countries, most NICs and LDCs must accelerate telecom network growth from the range of 3-4 percent per annum to around 10 percent p.a. This will require devoting at least 1-2 percent of GNP to telecom investment. To accelerate to 10 percent p.a. in the non-OECD countries will require something like \$300 billion over the next decade. This demand for capital...will tax all available sources.<sup>1</sup>

Similar estimates have been done for the former Communist countries, most of which are seeking to reach the level of 30 per hundred penetration by the year 2000. These estimates show that to get from their current average penetration of about 10.5 lines per 100 population the target of 30 lines in seven years, by the year 2000, will require an investment of roughly \$141 billion (!), and that a comparatively large share of each country's GDP will have to be devoted to telecommunications construction.<sup>2</sup>

By comparison, it took European upper and middle income countries quite a few years to complete similar construction programs. For example, while France took only 5 years to go from 13 to 30 penetration, West Germany took 9 years, Spain 14 years, and Belgium 17 years.

Realistically, it appears that while some countries in the developing world and former Warsaw Pact will have the commitment and the drive to devote their own resources to this sector and obtain multilateral and foreign investments, many countries will not be able to achieve this. For these lagging countries, telecommunications will serve as a drag rather than a spur to economic development.



#### 4. NEEDED SECTOR REFORM AND REGULATORY CHANGES

In 1984 the Maitland report stated that:

It is for governments to decide whether telecommunications are publicly or privately owned, and whether competition should be admitted. But telecommunications should be run on business lines as a separate, financially self-sustaining enterprise. It should be properly managed with effective controls.

Due to the wave of privatization and sector liberalization that has and is sweeping the world in telecoms and other sectors, most current analysts agree the old approach of having a state-owned monopoly provide all posts and telecommunications (or PTT—Post, Telephone and Telegraph provider) has now outlived its day.<sup>3</sup> This approach has tended to have telecoms subsidize posts, provide low quality service, provide none of the business-oriented services now common in industrialized countries, be very non-customer driven, have telecom profits siphoned off by the Treasury rather than invested in more phone penetration, and generally serve as a drag on development. All of these problems were evident in the developing world and in the former Communist countries, with the result that service is often very poor, networks highly congested, and call completion rates low.

What many observers agree is needed in the future in most countries is the following sequential program:

- Separate posts from telecoms where this has not already been done
- Create a strong but small regulatory body to regulate (not direct) the development of the sector by issuing licenses, prohibiting and penalizing anti-competitive behavior, regulating prices set by dominant providers, managing public assets such as the radio frequency spectrum, setting and enforcing technical standards so that all equipment is interoperable, and responding to consumer complaints
- Rapidly move to allow competition and private sector energies to enter segments of the telecom arena such as cellular phones, paging, leased lines, rural call boxes, voicemail, packet switched data services, and terminal equipment (phone sets and other customer premise equipment)
- Move to gradually reduce cross-subsidies from international traffic to long distance and local traffic, and from long distance to local traffic
- Gradually move to allow some competition in long distance and possibly in the "local loop" (local phone service), where such competition will not seriously harm the existing service provider

- Gradually move to privatize the major telecom provider (now usually a monopoly) by first creating a government-owned stock corporation, and second by selling a substantial part of the stock to a strategic investor (usually a foreign telco with substantial financial resources and technical expertise). The balance of the stock can be held by the government for future sale, as was done in the TELMEX privatization, sold to the public, sold at a discount to the employees, or some combination of the above.

Such a program will harness the entrepreneurial energies of the private sector; help to rapidly increase phone penetration, especially for businesses and industry; prod the existing monopoly provider into operating more efficiently; bring prices more in line with costs; and allow many new, small firms to flourish in the sector. Of course, local conditions may dictate a significantly different approach on occasion, but the general outline provided above should cover a majority of situations.

While a few countries have taken most or all of these steps (such as Malaysia, Chile, Argentina, Mexico, Venezuela, Britain, New Zealand, Australia and Canada); and some more are seriously planning to privatize (such as Hungary, the EC countries, Singapore and Thailand); most are discussing this course of action, commissioning studies, and taking only tentative steps. Given that there are only a limited number of strategic investors in the world and only a limited amount of investment funds, it would appear to be a classic buyers' market. This implies that those countries that are slowest to get to the table may be left with only the scraps. Since the countries that are moving the slowest to reform now appear to be the lowest income ones, this does not bode well for the future of the telecoms gap between the rich/middle income countries versus the poor countries.

#### 5. PERSONNEL, TRAINING AND ORGANIZATIONAL PROBLEMS

In 1984 the "Missing Link" report stated the following:

Many problems over availability and quality of service in developing countries are symptoms of inadequacies in organization and management...Lack of sufficient trained staff is a major cause of the shortcomings of telecommunications in developing countries. Managers, supervisors and staff must be thoroughly trained. We recommend that developing countries review their training needs and resources...

Currently the situation in many less developed telecommunications organizations, both regulatory and operating, in the less developed countries and former Warsaw Pact, seems to have improved only a bit since 1984. Most such organizations still face tremendous personnel, training and organizational problems. These seem to have several causes:

- While the PTTs were functioning as organs of

government, employing a bureaucratic, leisurely, non-bottom-line approach was quite acceptable.

- The clients of the old PTTs were often not primarily the public and the business community, but rather were other state-owned enterprises (SOEs) and the national security apparatus. (In fact some Communist countries had a poor quality telecom system for the general public and unimportant SOE users, and a special, better-quality phone system linking the key decisionmakers in society—the central politburo, the armed forces, the party, the intelligence service, and the puppet media.) Thus “serving the public” was never really a goal of the old system.
- Full employment had a higher priority than management efficiency. Management training was deemed to be unimportant or even completely unnecessary, since motivating personnel and making them efficient was less valued than controlling personnel and making them subordinate to top-down control.
- Sharing ideas across units within an organization, and especially across organizations, was not deemed to be important.

As a result of these and other causes, a myriad of challenges are now being encountered by developing and former Communist PTTs. These challenges, while obvious and important to the outside observer, are often not recognized by the PTT managers, for several reasons. First, most PTT managers and top telecom Ministry officials are engineers, who are usually much more interested in technologies and equipment than in personnel issues. Second, these organizations almost always are managed by insiders who have risen slowly through the ranks and are reluctant to change the only system they have ever known. Third, most of the money flowing into the PTTs is directed at rapidly addressing the engineering problems of the networks, not at the management problems of the organizations. Technical management and regulatory assistance is being offered and funded by various multilateral banks, but will probably take a long time to have a significant impact.

The significant challenges in this area can be divided into the following types:

- Educational level of the workforce
- Manpower planning
- Position descriptions
- Performance appraisals
- Pay systems
- Benefits
- Overcentralization
- Internal communications
- Training
- Labor relations
- Staff vs. line capacity.

Each of these is discussed below.

### Educational Level of the Workforce

The educational level of the workforce in less developed telecom regulatory and operating entities in Asia, Africa and Latin America is usually much too low (see Figure 1). The increasing complexity of the sectors and the technologies of the future dictates a highly educated workforce, especially for the regulators. What is needed here is a multistage approach that involves developing a picture of the ideal future organization, and designing job descriptions and educational requirements to fit into that organization (see Figure 2).

In former Communist countries the situation is a bit different. Here the educational level, especially on the technical side, is often quite good. What is usually needed here is extensive additional education in business management, financial analysis, Western-style accounting, strategic business planning, and other “soft” subjects. Many developing telecom organizations need many more highly trained telecom engineers (see Figure 3). This is often because the country only produces a very few such engineers (e.g. Uruguay only produces 10 telecom engineers per year) and/or because the few engineers are snapped up by the better-paying, emerging private sector. The approach often required here is to raise salaries for new recruits and for old employees who complete an ambitious training program (see Figure 4).

### Manpower Planning

Often developing telecom organizations have little or no modern manpower planning capability (see Figure 5). Such manpower planning should have certain basic elements, such as a specified planning unit and clear links to the overall corporate or organizational plan. Developing telecom organizations had little need for such planning, since the organization was static, almost all hiring was done at the bottom rung only, direct from the universities and technical schools, and very few promotions were processed. All this will need to change in the developing world and in the former Communist PTTs.

### Position Descriptions

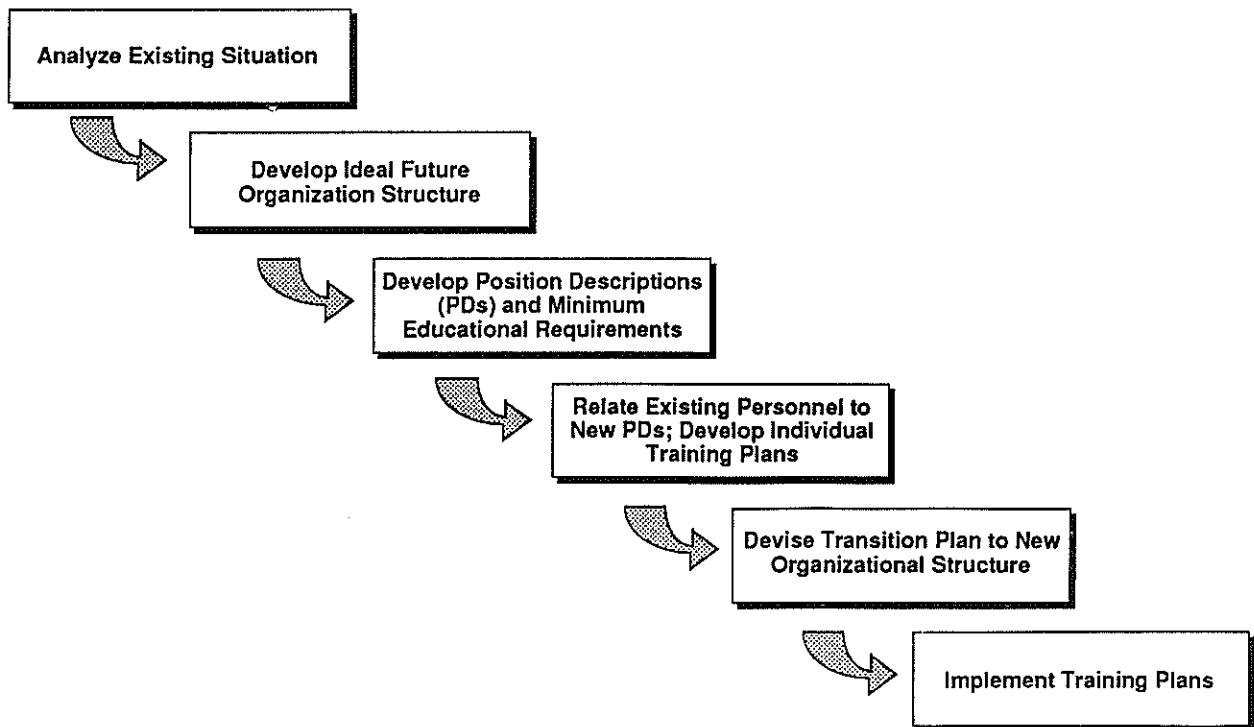
Developing telecom organizations seem to have many difficulties with position descriptions (PDs—see Figure 6). In some countries they are non-existent and employees simply look to their boss for direction. In some countries they exist but are very vague (“the employee will serve the needs of the country and the PTT’s customers...”). In some countries they are so specific and unchangeable that it can take months or years to alter them to fit reality or to accommodate new management initiatives. In at least one country the PDs move with the individual, so that an operator transferred to trench digging would retain the hours and many of the benefits of an operator, while performing trenching operations!

**FIGURE 1**  
**MANY DEVELOPING TELECOM ORGANIZATIONS HAVE A VERY HIGH**  
**PERCENTAGE OF STAFF WITH INADEQUATE EDUCATION**

Educational Level	Typical Asian Operator*		Typical Asian Ministry of Communications**		
	#	%	#	%	
Ph.D.	3	0.0	0	0.0	} Highly Desirable
M.S.	67	0.4	1	0.2	
B.S.	1781	9.8	80	22.9	} Acceptable
2-3 Yr. Degree	5579	30.7	25	7.2	
High School	1368	7.5	166	47.6	} Unacceptably Low for Most Positions
Below H.S. or Other	9390	51.6	77	22.1	
<b>TOTAL</b>	<b>18188</b>	<b>100%</b>	<b>349</b>	<b>100%</b>	

\* This is an operating entity and hence has a high percentage of manual workers  
 \*\* This regulatory organization needs relatively few low-trained staff

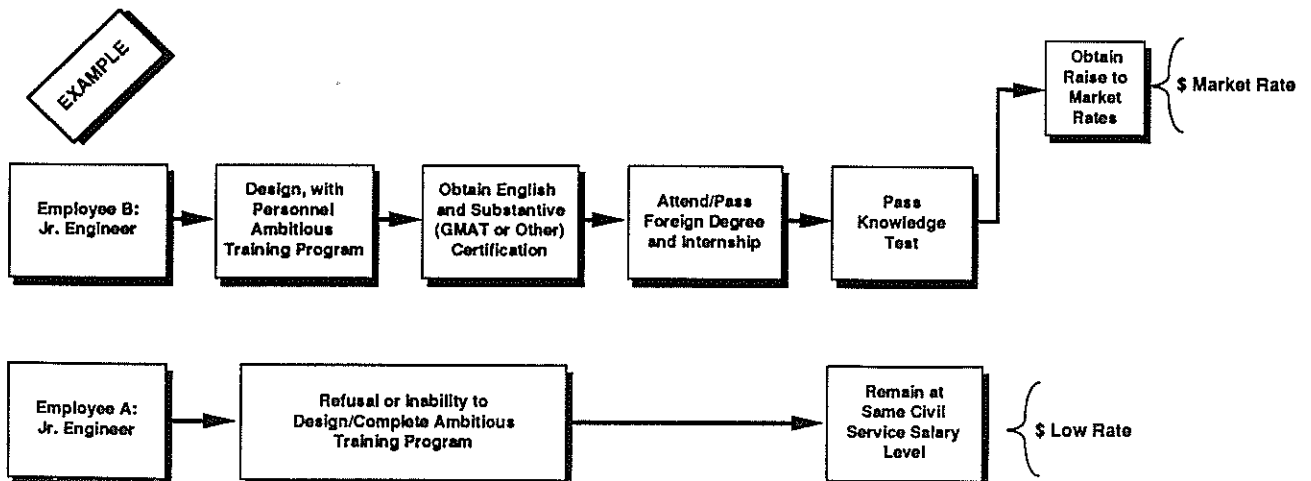
**FIGURE 2**  
**THE BOOZ-ALLEN APPROACH TO THIS ISSUE INVOLVES SIX STAGES**



**FIGURE 3**  
**A LACK OF HIGHLY TRAINED ENGINEERS IS OFTEN A PROBLEM**

ISSUE	COUNTRY	EXAMPLE
Low Percentage of Electrical Engineers on Staff	Uruguay ANTEL	Only 70 of 8000 ANTEL Employees Have EE Degrees (0.8%)
Declining Number of Engineers, Unfilled Vacancies	Indonesia MTPT	MTPT had 9 EE Vacancies in Early 1992 for 3. Years, Unable to Fill Any
Difficulty in Recruiting Engineering Technicians	Thailand TOT	Private Employers Pay Engineering Technicians with 2 Year Degree About \$280/Month; TOT Pays \$140/Month
Inability to Recruit From Best Schools	Indonesia MTPT	MTPT Had No Graduates of Best School in Country (Institute of Techology at Bandung)

**FIGURE 4**  
**THE BOOZ-ALLEN APPROACH IS OFTEN TO RAISE SALARIES FOR NEW RECRUITS AND FOR OLD EMPLOYEES WHO COMPLETE AN AMBITIOUS TRAINING PROGRAM**



**FIGURE 5  
MANPOWER PLANNING IS USUALLY VERY LIMITED, DUE TO THE  
STATIC NATURE OF THE ORGANIZATION**

<b>Typical Situation Around The World</b>	<b>Future Needs</b>	<b>Examples</b>
Minimal Measures of Manpower Productivity Exist (Usually Only "Lines Per Employee" or "Employees Per 1000 Lines")	Manpower Studies Needed To Establish Best Practices And Productivity Targets For All Key Job Categories	TOT Reached Goal of "68 Lines/Employee" (15.2 Employees per 1000 Lines) and Plans to go No Higher
No Manpower Planning Unit Exists, or is Inactive	Strong Manpower Planning Unit Able To Identify Needs And Rapidly Fill Them	
No Comprehensive Manpower Plan Exists	Comprehensive Manpower Plan Established, Linked To Corporate Planning System	Few East European PTTs Linked or Have Established Manpower Plan
Very Few Recruitments Performed, Little Outreach	Numerous Promotions And Transfers, Career Ladders Established	Antel (Uruguay) Recruits Only 40 to 50 Positions/Yr (0.5% of Workforce) Including Only 10 Professionals
Very Few Promotions Processed, No Career Ladders	Numerous Recruitments, Wide Outreach	Antel Promotes Only 100 Staff/Yr (1% Of Workforce)
No Recruitment From Outside Allowed	"Fresh Blood" Brought In At All Levels	Eastern Europe, TOT, MTPT, Antel All Recruit at Bottom Only

**FIGURE 6  
POSITION DESCRIPTIONS (PDs) ARE OFTEN PROBLEMATIC**

<b>IDEAL PDs</b>	<b>SOME ACTUAL PDs</b>
Exist	Non-Existent
Specific About Job Tasks	Overly Vague
Include "Other Duties as Assigned"	Omit This Key Phrase
Flexible and Easily Changed (within 1 Month) by Management to Reflect New Organization and New Technology	Inflexible, Subject to Lengthy (6 Month) Union, Personnel Department, and Even Board of Directors Approvals
Individual Who Changes Jobs Moves Into New PD	Individuals Carry Their Old PDs Into New Jobs, Creating Conflicts



## Performance Appraisals

Many developing telecom organizations skip performance appraisals or rate almost all their employees as "excellent" or "outstanding" (see Figure 7). Obviously a more normal curve distribution is needed to provide any meaningful feedback to employees.

In some Asia/Pacific telcos performance appraisals are written up and put into the individual's personnel file, but kept secret from him, due to a cultural fear of face-to-face confrontation.

## Pay Systems

Pay systems in developing telcos are often not appropriate to achieving new organizational goals (see Figure 8). Civil service-style pay systems, with the traditional steps and grades, tend to give little incentive for phone workers to produce. Yet many phone worker operations are amenable to piece work, bonus, incentive or other systems which reward high production.

In the former Communist countries, pay systems are almost always very flat, with almost all employees (from policy makers to managers to blue collar workers) closely clustered around an average salary. (Really senior officials were often rewarded with non-monetary perks such as better living accommodations, a car, etc.). Thus there is little incentive to work harder within one's present job, and little incentive to try to get promoted (unless one gets near the top). Pay levels for telecom workers in these countries are usually very low, leading to taking of second jobs and possible future "brain drain" to the emerging private sector and the West.

The approach that is needed in the developing world and in former Communist countries is a system that combines individual and team bonuses, to incentivize excellence, team cooperation, and competition between regional or other teams within the company (Figure 9). Excellent performance by individuals and teams should lead to pay that is at or slightly above the market pay rates, to prevent "brain drain."

Developing pay systems and pay levels that are appropriate to the organizational goals and are comparable to the emerging private sector will and should be a high priority in the future in the developing and post-Communist telcos.

## Benefits

Often developing telecom organizations benefits are as good and sometimes better than the emerging private sector's (see Figure 10). This is probably because the state-owned and over-staffed PTTs have found it easy and cheap to offer low cost perks in place of adequate salaries. Often in the former Communist this leads to individuals retaining their PTT jobs (from, say, 7:00 am to 3:00 pm) for the sake of the benefits, while taking an afternoon private job (from 3:00 pm to 7:00

pm) for the sake of the money. Sometimes such jobs have built-in conflicts of interest. What is needed here is an analysis of market levels for benefits and a migration strategy to move to market based benefits.

## Overcentralization

Usually developing telecom organizations are over-centralized for their modern functions. High centralization was appropriate when the (implicit) goal was slow growth of telephone penetration and constant control and checking of subordinate's activities. Now that the goal has shifted to fast growth of phone penetration, much more decentralization is essential. Overcentralization leads to three key problems: low probability of approval for essential actions, slow decisionmaking time, and overloading and trivializing of top management decisionmaking (see Figures 11 and 12). But overcentralization is one of the most difficult management traits to let go of. What is needed here is the will to decentralize and delegate, especially in the important area of authority to purchase needed items. While detailed studies may be necessary to determine the optimum level of decentralization, the major obstacle here is usually internal resistance, not lack of management studies.

## Internal Communications

Often developing telecom organizations have problems communicating across internal unit lines. This is especially true when it comes to communicating between the engineering/operations area and the finance area. Finance specialists in the old regime often had a very low level of authority and prestige, and were viewed simply as very basic accountants who costed out the engineers' construction plans and passed them on to the central Treasury for approval. No Western-style financial analysis or forecasting was usually done, and the accountants rarely questioned the engineers.

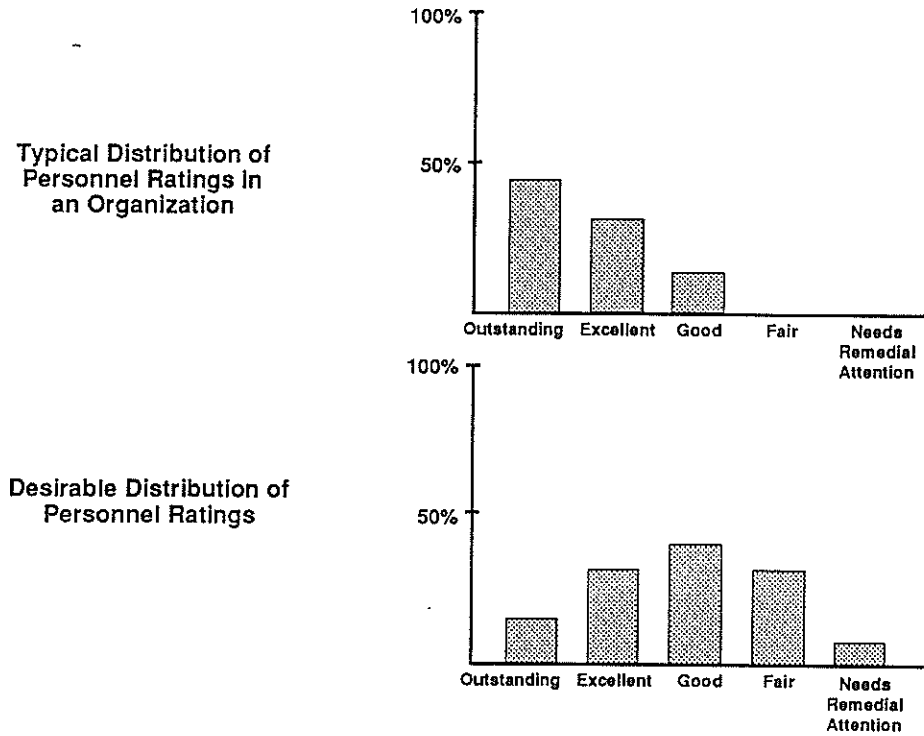
In the new evolving system, now that resources are very scarce, the economic viability of projects has become paramount, and close interaction between engineers and highly trained financial analysts is necessary. Thus the authority, training and prestige of the financial function will need to be raised substantially.

The necessity for greater interaction carries over to many other areas, where functions which could operate fairly autonomously under the old regime now need a great deal of lateral communication in order to succeed (see Figure 13).

## Training

The most obvious problem faced by developing telecom organizations, a problem especially noted by the Maitland report, is the low "training rate" (see Figure 14). A high training rate is vital in a dynamic organization with changing technologies. But in Thailand, for example, the training rate is about 5 times lower than what is often recommended. Even if one allows for the fact that developing PTTs may be

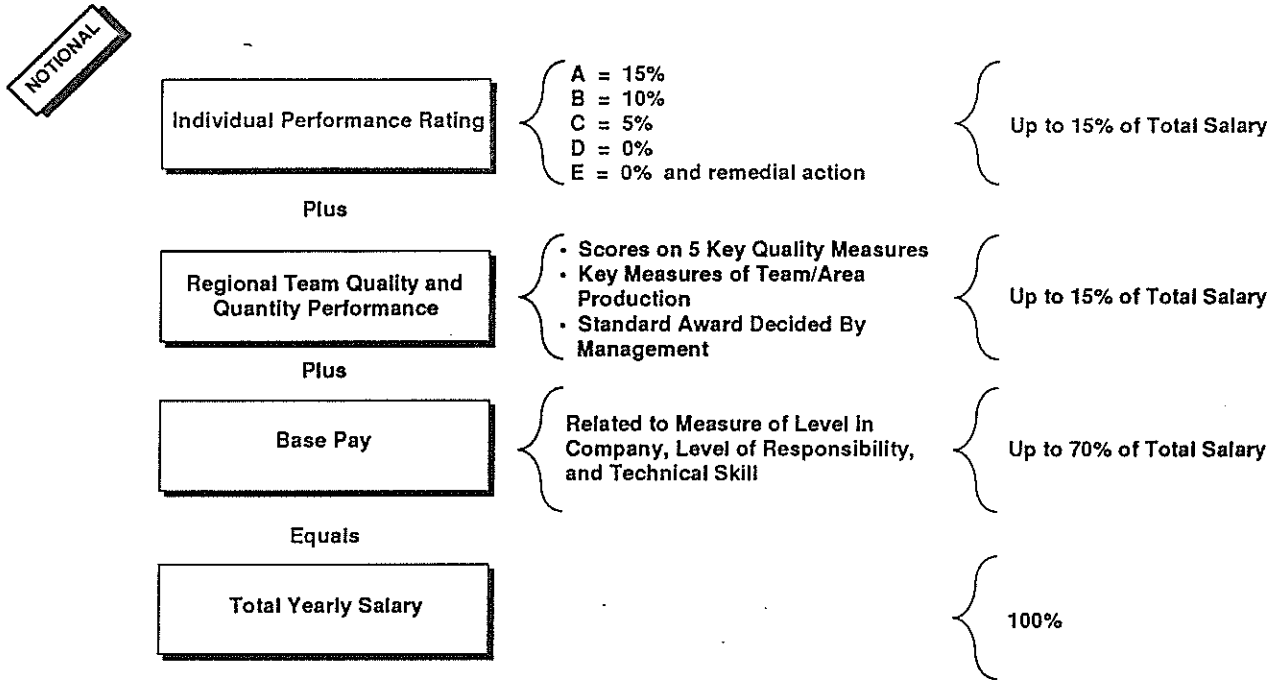
**FIGURE 7**  
**PERFORMANCE APPRAISALS OFTEN ARE SKIPPED OR PROVIDE**  
**INADEQUATE ACCURATE FEEDBACK**



**FIGURE 8**  
**PAY SYSTEMS OFTEN GIVE WORKERS LITTLE INCENTIVE TO PRODUCE**

<u>SYSTEM</u>	<u>CHARACTERISTICS</u>	<u>LOOKS LIKE</u>																																																										
Civil Service-Style Pay System	<ul style="list-style-type: none"> <li>• No Incentive to Work Hard</li> <li>• Often Leads to Bureaucratic Focus on PDs</li> <li>• "Make-Work" or Paperwork Focused</li> </ul>	<table border="1"> <thead> <tr> <th colspan="2"></th> <th colspan="4">STEPS</th> </tr> <tr> <th colspan="2"></th> <th>A</th> <th>B</th> <th>C</th> <th>D</th> </tr> </thead> <tbody> <tr> <th rowspan="7">GRADES</th> <td>1</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>2</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>3</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>4</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>5</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>6</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>7</td> <td>\$</td> <td>\$</td> <td>\$</td> <td>\$</td> </tr> <tr> <td>.</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>.</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>			STEPS						A	B	C	D	GRADES	1	\$	\$	\$	\$	2	\$	\$	\$	\$	3	\$	\$	\$	\$	4	\$	\$	\$	\$	5	\$	\$	\$	\$	6	\$	\$	\$	\$	7	\$	\$	\$	\$	.					.				
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Ideal Pay System:	<ul style="list-style-type: none"> <li>• Gives Incentives and Disincentives</li> <li>• Rewards Teamwork and Individual Effort</li> <li>• Is Tied to Company Goals</li> <li>• Production-Focused</li> </ul>	<p align="center">Bonuses + Base Pay</p>																																																										

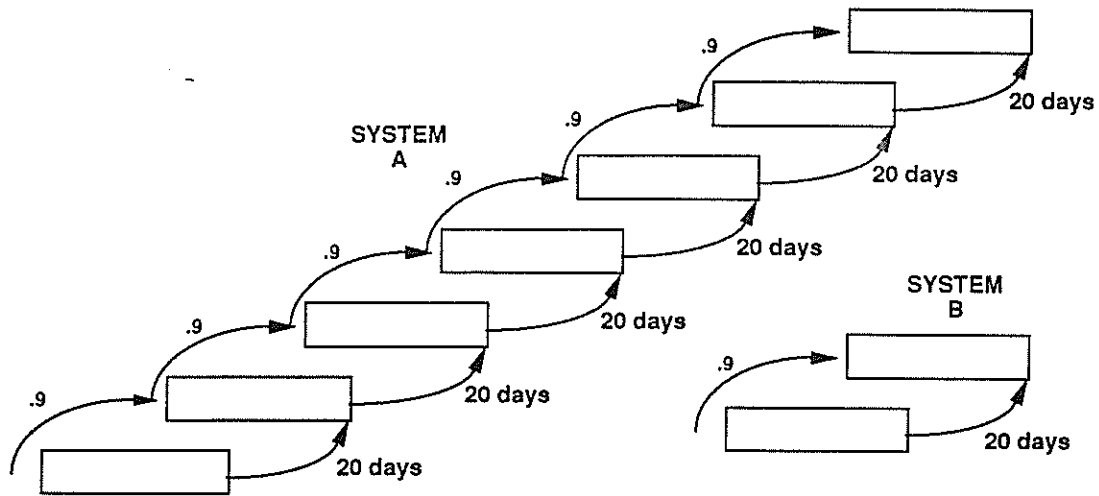
**FIGURE 9**  
**BOOZ-ALLEN OFTEN SUGGESTS A SYSTEM THAT COMBINES INDIVIDUAL**  
**AND TEAM PERFORMANCE BONUSES**



**FIGURE 10**  
**BENEFITS MAY EXCEED OR BE LESS THAN THE MARKET**

BENEFITS	THAILAND		INDONESIA	
	TOT	PRIVATE	MTPT	PRIVATE
"Extra Months" Bonuses	Usually 2 – 3 Months	?	Sometimes 1 Month	Always 1 Month
Retirement Lump Sum Payment and Other Payments	Last Monthly Salary X yrs of Service; No Other Pays	Employer Matches Employee Savings Up to 5% of Salary	25% of Final Pay For Life	25% of Final Pay For Life
Health Care	Go to TOT Doctors or get 100% Reimbursement, Extended Family Coverage	100% Reimbursement but No Extended Family Coverage	Go to Free Designated Doctor or Hospital	Reimbursed 100% at Doctor of Own Choice
Vacation	NA	NA	14 Days/Year	14 plus Days/Year
Education Leave	Pays Full Salary	None	None	None
Low Interest Loans	4.5% Below Market	1% Below Market	None	None

**FIGURE 11**  
**THREE TYPICAL PROBLEMS OF OVERCENTRALIZATION**



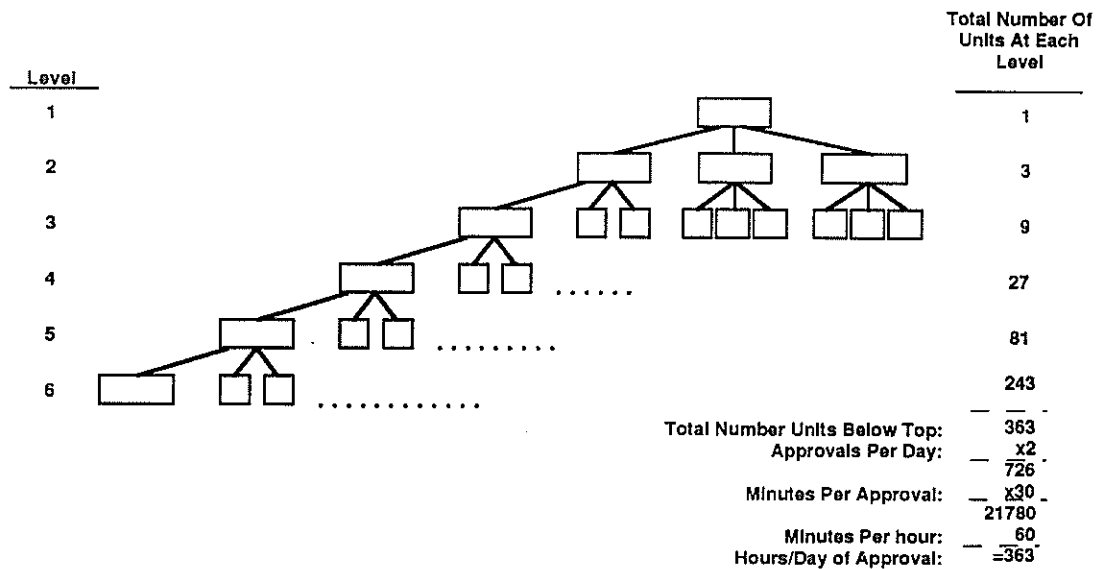
**PROBLEM 1**

Probably of Approval. Administrative system A requires 6 approvals to allow an action. Each approval has a probability of "yes" of 0.90 but the total probability that an action will be approved is only 0.53. This contrasts with administrative system B, where the probability of action is 0.90.

**PROBLEM 2**

Speed of Response. Each approval in administrative system A takes 20 days on average. Thus the total average approval time is 120 days. By contrast system B takes 20 days to respond.

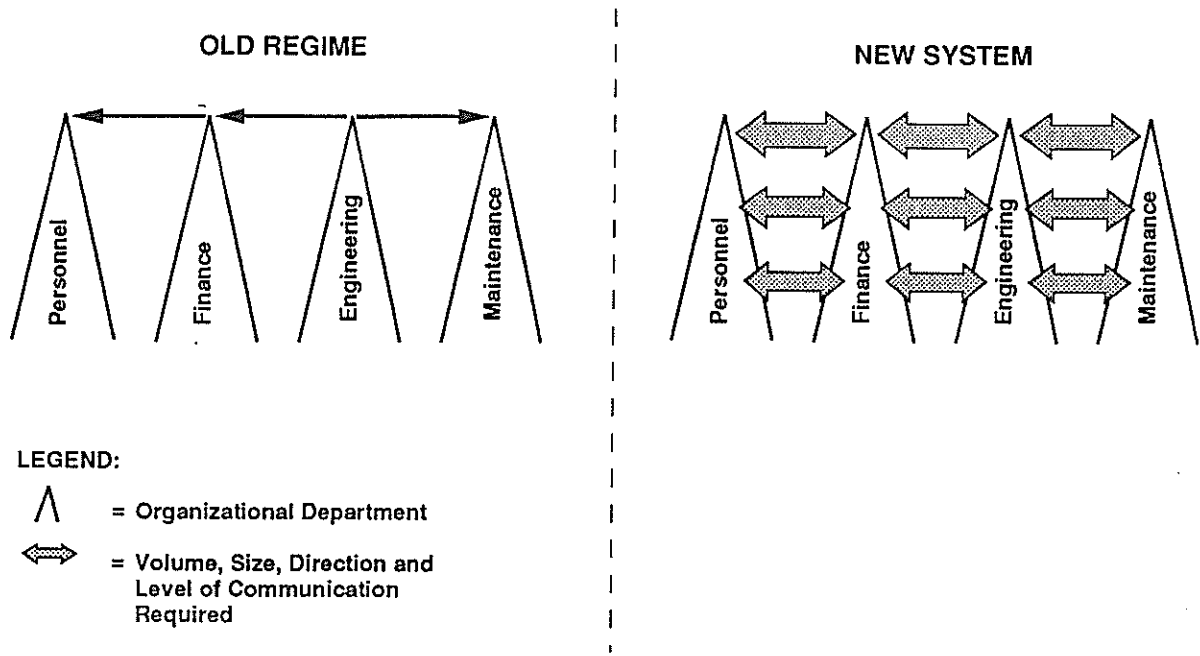
**FIGURE 12**  
**THE THIRD PROBLEM WITH OVERCENTRALIZATION INVOLVES OVERLOADING SENIOR MANAGERS WITH TRIVIAL DECISIONS**



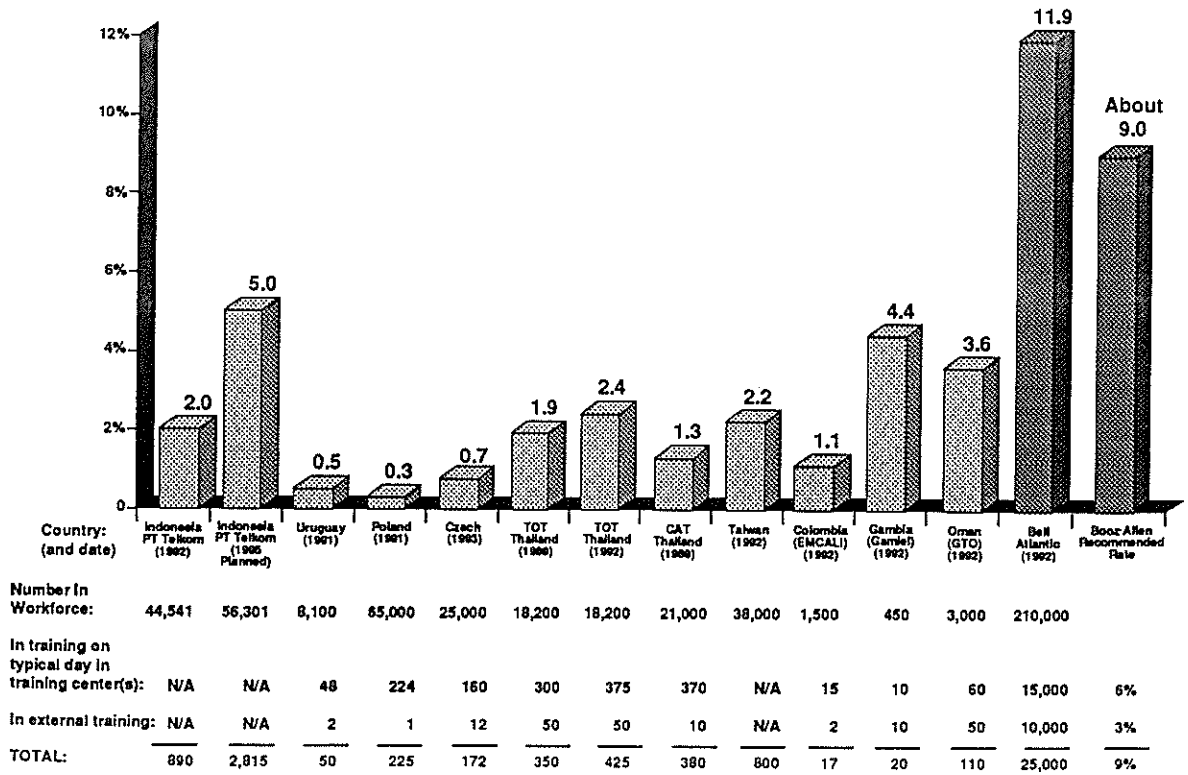
**PROBLEM 3: Overload of Top Management.** Assume a system with 6 levels and 3 subordinate units per each superior unit. Also assume that each subordinate unit originates 2 requests/day for approval, each of which requires 30 minutes to OK, and each of which must be passed to the top level for final approval. Then the top person will be inundated with 363 hours/day of minor decisions to approve.



**FIGURE 13**  
**LATERAL COMMUNICATIONS ARE VITAL UNDER THE NEW, MORE INTERACTIVE SYSTEM**



**FIGURE 14**  
**THE USUAL TRAINING PROBLEM IS THE LOW "TRAINING RATE"**



\*\*\*Training rate\*: the percent of employees in a workforce in training on a typical day.  
 \*\*Includes 3,750 in external training and 6,250 in seminars, workshops, etc.

overstaffed by 30 percent or more, these kinds of training rates are very low indeed. If excess staff are to be "carried" for a while and trained to do the tasks required in the future, and essential staff are to be trained in their new duties, a huge investment in training infrastructure will be required.

As mentioned earlier, there is often little or no training available in the developing telcos in the "soft" areas such as personnel management, financial analysis, corporate planning, customer orientation, etc. Figure 15 shows the typical training needs in these areas.

### Labor Relations

Telecom labor unions in such countries as Thailand, Colombia and Uruguay have successfully derailed privatization and restructuring plans. Their concerns need to be analyzed and "packages" of proposals devised to address their legitimate concerns. In telecoms and other sectors, poor labor relations have probably derailed more privatization and restructuring plans than any other factor. Often part of the problem is that management has done little or nothing to develop and communicate a "vision of the future of telecommunications" to the employees and the public. In many organizations the top-down communications are worse than the lateral communications. In one middle-income country a study showed that 60 percent of telco employees' information about the telco came from the public press (not from management), and that most of the press information came from the telecom unions, not from management.

In the former Communist countries labor unions were once puppets of management (in fact one way to rise to top management was to become a labor leader!). But under the new realities, with poor economic conditions and possible privatization and layoffs in the near future, some telecom labor unions are starting to act like "real" Western-style

unions. Again, what is needed here is management vision, communication of that vision to workers and union members, and careful design of restructuring plans to address legitimate worker concerns.

### Staff vs. Line Capacity

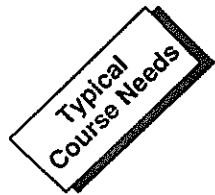
A final typical personnel and organizational problem faced by many developing telecom organizations is a lack of "staff" as opposed to "line" capacity (see Figure 16). Often the functions of marketing, human resource development, legal and regulatory affairs, financial analysis and forecasting, public and consumer relations, and corporate strategic planning are absent or are very weak and need strengthening.

## 6. SUMMARY

In summary, telecommunications regulatory and operating entities in less developed and post-Communist countries have all the needs for institutional strengthening—manpower planning, training, personnel management, pay and benefits, overcentralization, internal communications, labor relations—that are common to other LDC governmental and quasi-governmental institutions. In addition, to serve as an aid to economic development, the telecom sector will need tremendous levels of investment in network expansion, and dramatic changes in sector liberalization, regulation and privatization. It seems unlikely that all countries will understand these needs simultaneously, or that the funds will be available to finance all the changes needed. Those countries that act quickly and "seize the day" will have a significant competitive advantage in the race for economic development.

In 1984 the Maitland "Missing Link" report said that, "An expanded telecommunications network will make the world a better and a safer place." If the challenges of investment, regulation and personnel are successfully met, perhaps this clear and attractive vision of the future can be realized.

**FIGURE 15**  
**ANOTHER KEY PROBLEM IS OFTEN THE LACK OF MANAGEMENT**  
**AND "SOFT" TRAINING**



**CUSTOMER ORIENTATION**

- Market Research Skills
- Sales Techniques
- Customer Relations
- Ethics in Business
- Product Development & Life Cycle

**ECONOMIC ISSUES**

- Financial Forecasting
- Regulatory Economics
- Profit Center Management
- Budget Analysis

**CORPORATE MANAGEMENT**

- Project Management
- Contractor Supervision
- Management Analysis
- Strategic Planning
- Business Development

**LANGUAGE SKILLS**

- Technical English
- English for Operators
- Advanced English
- Other Foreign Languages

**SYSTEMS**

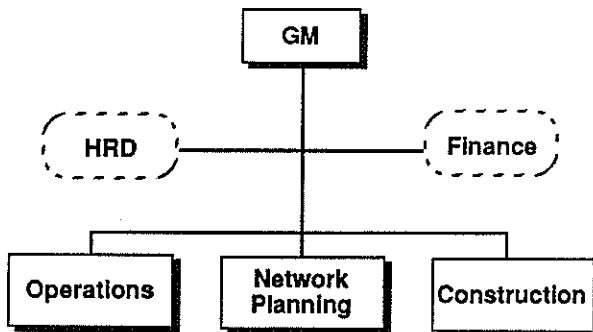
- Introduction to Computers
- Management Information Systems
- Operations Support Systems
- Decision Information Systems

**PERSONNEL**

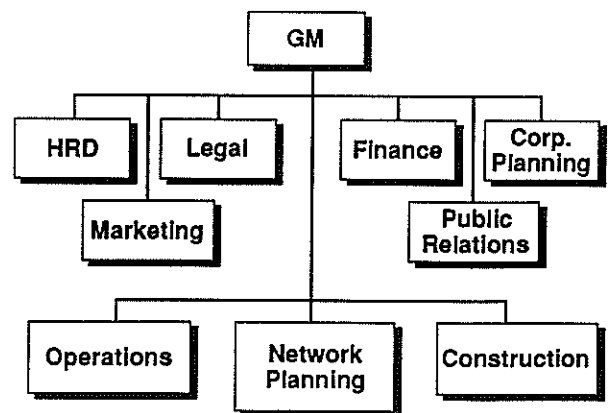
- Front Line Supervision
- Middle Management Supervision
- Senior Level Leadership and Supervision
- Labor Relations
- Training Program Development

**FIGURE 16**  
**A LACK OF "STAFF" (VS. "LINE") CAPACITY IS OFTEN A PROBLEM**

**TYPICAL OLD SYSTEM**



**NEEDED NEW SYSTEM**



Legend: = Weak or Non-Existent Function  
 = Strong Functional Capacity

## REFERENCES

<sup>1</sup> Dr. Timothy Nulty, "Emerging Trends in Telecommunications Policy in Developing Countries," Second Annual East-West Telecommunications Forum, June 1992, *The Wall Street Journal Europe*.

<sup>2</sup> Stefan Zehle, *Prodata*, *ibid*.

<sup>3</sup> See various essays by Bjorn Willenius, Peter Stern, Timothy Nulty, and Richard Stern, *Restructuring and Managing the Telecommunications Sector*, 1989, World Bank.

## BIOGRAPHICAL INFORMATION

Llewellyn "Lew" Toulmin, Ph.D. is a Senior Associate at Booz-Allen & Hamilton. He has undertaken telecom regulatory, privatization, organizational and personnel work in Thailand, Indonesia, Poland, Hungary, Czech Republic, and Uruguay, and has trained telecom regulators and operators from all over the world in these topics. He has 21 years of management analysis experience, and has an M.P.A. from the Maxwell School of Syracuse University and a Ph.D. in policy analysis and economics from The American University.