C E Center for Effective Organizations

Designing Informal Networks

The continuous search for competitive advantage is leading many companies to examine their organization. Traditional barriers to entry and sources of advantage like scale and patents are easily circumvented today through actions like strategic alliances. More lasting sources of advantage are being sought in the from of core competencies (Hamel and Prahalad, 1991) and organizational capabilities (Ulrich and Lake, 1991; Hout, 1992; Lawler 1992). These skills and abilities will provide stability and constancy of purpose as the sea change of digital electronics constantly redefines products and services, markets, competitors, and industries. (WSJ. Feb 18, 1992). These lasting capabilities are neither easily built nor easily copied. They appear to provide a source of sustainable competitive advantage.

One of the capabilities that holds promise is the lateral organization. It is the capability to act quickly and responsively across vertical lines of authority. It is the cross departmental processes such as teams or task forces for reducing cycle times, reducing time to market, implementing improvements and solving customer problems. In addition, the implementation of cost reductions, total quality management, continuous improvement, and re-engineering all require cross departmental coordination capabilities. Those companies that can act the most quickly and responsively across organizational departments will be the winners.

The Lateral Organization

The lateral organizations, as described above, is the capability to move general management decision making to lower levels of the structure. As shown in
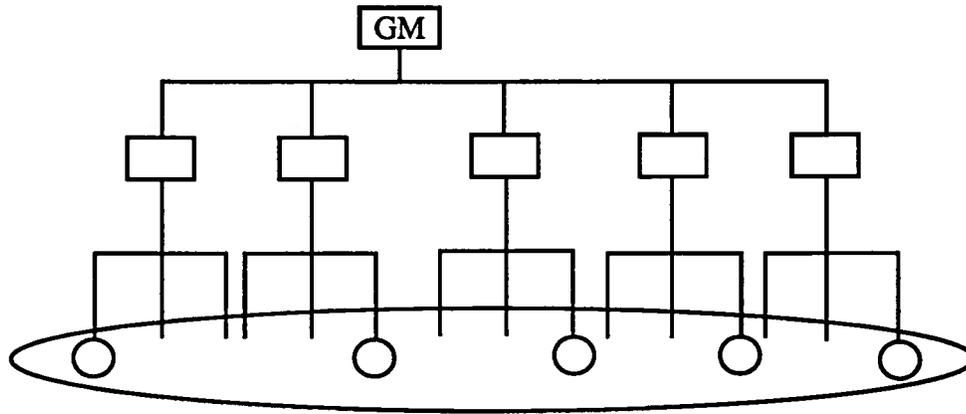
Figure 1

Figure 1 a collection of managers from each department combine to form the equivalent of a general manager. Each function is represented and the combination, whether it is called a team, council, board or task force, represents the entire organization in micro cosm. The group acts and decides as if it were the general manager for the issue at hand. The issues at hand are usually cross functional differences that arise on new product introductions, customer requests, quality problems, capital projects, and so on. The lateral organization gives the company the capability to organize around a problem and respond quickly without changing its structure. In today's business climate the lateral organization gives the capability to move decisions to the point of product and customer contact. It gives the control of speed and quality to those who perform the work. The ability to compete on speed and quality depends on the speed and quality of the lateral organization. While all companies are forming teams, the advantage will go to those who can actually achieve cross functional integration at the points of action. That achievement depends on the quality of the relationships between those people whose work interacts. It is the creating of these relationships that is the concern of this article. The view taken here is that the informal network of relationships is the key to the quality of cross departmental integration.

Informal Networks

The foundation of the lateral organization is the informal network of relationships between managers. The ability to act across functions is determined by the extent and quality of relationships that exist across these departments and their managers. In the past, these relationships were seen as informal, spontaneous, voluntary, and uncontrollable. They seemed to form randomly. Today these relationships are seen as a source of strength which can speed work across departments. As a result companies are explicitly trying to design and shape the informal organization. They are trying to make the network extensive and effective at key interfaces. This paper describes some effective practices being employed by companies to design their informal networks.

The informal organization has always had a pejorative connotation surrounding it among organization designers. Informal actions were not prescribed behaviors and therefore were suspect. Indeed, originally informal organization among blue collar workers was a contrary organization. Workers adopted their own norms of production to restrict output and stand united against management. Informal networks among managers were also viewed negatively. The "Old Boy Network" among managers was used covertly and overtly to prevent and thwart changes initiated by top management. One thing that was recognized however was that the informal organization was effective. The informal groups accomplished their goals while subverting those of management. Today the power of the informal network is being channeled into the pursuit of organizational goals.

The channeling and shaping of the informal organization has happened quite by accident. As so often happens in organizations, management acts for one purpose and discovers that it accomplishes another as a by-product. For example companies are increasing their budgets for training and education. Groups of managers, 25 at a time go off for one or two weeks for training on a topic. At the end of two weeks, the company has not only 25 trained managers but a set of relationships among the 25 managers from throughout the organization. These relationships then begin to be used to transfer ideas and contacts to facilitate work. Initially the networking was seen

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as a useful by-product of the training. Then the training department featured networking as much as training in justifying their budget. Finally, much thought is now given to the selection of the 25 for training. Companies are selecting the 25 who have key interface roles. The purpose is to eliminate barriers between departments that must cooperate on important work flows. And so it is with physical co-location and interdepartmental career transfers. Relationships formed as a by-product initially. Today managements are using transfers and co-location to build networks that can be used on a work related basis. In the next sections network creating practices of successful companies are presented. Then the reward and measurement practices are discussed. In order for informal networks to function in the support of organizational goals, they need incentives and measures to pursue those goals.

Creating Networks

Informal networks occur naturally, randomly, spontaneously and voluntarily throughout organizations. Whenever two people with some affinity meet, a relationship is formed. The design of the informal network is simply to eliminate some of the randomness in its creation. The purpose is to increase the probabilities that important relationships are created and used. The organization designer acts as a relationship broker and makes the introductions. Spontaneity reigns from then on. Relationships and networks can be created through co-location, interdepartmental experiences, information technology and events.

1. Physical Co-location

The probability that relationships are established and used between people is a function of their proximity. Tom Allen was an early advocate of planning physical location so as to facilitate communication between people and groups (Allen, 1977). But too often communication between groups is not even considered when locating activities. The company's communication pattern is determined instead by the decisions made by the Facilities Department. While buildings and real estate are expensive and should be weighed, management loses the opportunity to shape relationships and communication patterns that can lead to an advantage.

Some companies explicitly weigh communication patterns in their location decisions. BMW has an organization design team which continually evaluates locations and measures communication needs along work flows. They balance the trade-offs. Because if a group is located near one group, it is not located near another. "Where is the best location to facilitate speed and quality of the work flow?" is criteria used.

Airframe manufacturers in the U.S. have adopted policies of locating multiple functions in the same building. All functions designing and manufacturing the wing are located in building 101, the fuselage in 102, tail section on 103 and so on. Interfunctional groups are located by the section of the aircraft on which they are working. The practice leads to more cross functional communication and more effective communication. Co-location leads to relationships. Engineers and manufacturing people meet each other in the cafeteria, at the coffee machine, copier, restrooms and parking lots. Conversations about the Super Bowl rather than controversial design changes can be conducted. Then when controversial design changes need to be discussed the participants have a relationship within which a problem solving dialogue is more likely to happen. Co-location generates more communication across functions and better quality communication.

Co-location can be temporary and timed to coincide with periods when intense communication is needed. BMW has a prototype factory. It is used when introducing a redesign of a model such as the 300 Series. All of the groups that are responsible for the redesign efforts move into the factory. The groups communicate as the design process proceeds from concept to drawings to models to full scale clay models to a driveable prototype. The groups are product designers, manufacturing process designers, purchasing negotiators, designers of training programs, marketing product managers and financial analysts. These groups co-locate during the communication intense design/redesign process. When the first 250 cars of the new model are built and tested, the groups disband and return to their functional locations to interact with fellow professionals. The groups that will design the new 500 Series move into the prototype factory in their place. In summary, co-location can be used to increase the quantity and quality of cross departmental communication. Proximity is a powerful shaper of relationships. And when units

are located next to one another work related relationships are created naturally and voluntarily. With some analysis of work flows, organizations designers can increase the likelihood of the establishment of cross departmental networks.

2. Interdepartmental Experiences

A number of companies employ a policy of rotational assignments across departments in order to develop general managers. When accompanied by supporting policies, rotation can round out a manager into a generalist. But in addition to development, the organization gets a network of informal relationships and cross unit communication as a by-product.

Studies which compare communications in companies which use rotation versus those who do not show a difference (Galbraith, 1973). Managers who have had interdepartmental experience communicate across departments, significantly more often than those managers who have had experience in only one department. Managers who have had interdepartmental experience communicate by using a richer media such as face-to-face discussion, an informal meeting or a phone call. Managers with no interdepartmental experiences tend to use memos. Thus interdepartmentally experienced managers communicate across units more frequently and more effectively.

The reasons for the communication effect are not difficult to understand. A manager who has recently spent two years in sales is in an excellent position to serve as an interface between the new department and the sales department. The manager knows the roles and names of the key players. He or she knows which person to call on which issues. Being familiar with the sales culture and language, they know what to say, how to say it and what not to say. They have an understanding of the sales position after having "walked in their shoes." In general, the rotated manager leaves the sales department with knowledge, language, and relationships that can be used to effectively manage the interface between the two departments.

Rotational assignments are currently underutilized. While most organizations endorse them, few actually use them. The result is organizations that are underpopulated with generalists. The reasons are several. Rotation is costly. There is a productivity loss on each rotation. It

requires a longer term developmental view point. Some of our salary systems penalize or do not incent the rotating manager. However moves to skill based pay (Lawler 1991) may remove this barrier. So there exists an opportunity to improve the lateral organization through rotational assignments.

Companies that use rotational assignments can also improve their lateral organization by rotation across key interfaces. One company examined its rotation patterns. It found two rotation paths. One group of managers rotated between sales, marketing and customer service. Another group rotated between R&D, engineering and the plants. No one rotated across the two groups. With new efforts at simultaneous engineering, this company needed cross trained people in engineering and marketing to help reduce time to market. So by concentrating some rotation between key interfaces along workflow paths, relationships will form and aid in cycle time reductions.

There are some alternatives to career moves which commit the manager to several years. Honda rotates its engineers when they join the company. Then they become a member of the engineering teams. But Honda has a policy of having engineers spend one week each year working in another department. They spend a week in a dealership, a sales branch, or a purchasing office. In this way they can understand and conceive of the entire work flow. These people can compensate for issues in other departments in their daily jobs because they are aware of benefits or problems that may be caused by their actions. They are also useful in efforts to re-engineer cross departmental processes and information flows.

A number of high technology companies employ sabbaticals. After five years, the employees get six weeks to recharge their batteries. Often employees from other departments can fill in for the person during the sabbatical. They can see if they would like a more permanent transfer. But whether they transfer or not, the employee learns about another department, learns some idiosyncratic language, and meets some new people and establishes a relationship or two.

Interdepartmental experiences from one week to five years can be used for informal network building as well as management development. The two outcomes actually go hand in

hand. However, organization designers need to see that rotations occur across key interfaces which require task related communication. In this way relationships established during the assignment can become part of the lateral organization.

3. Events

The number of different events that can be used for network building is limitless. Above training sessions were described where a little thought can be used to create relationships at key interfaces. Similar thought can be given to the many quarterly and annual meetings where managers from around the world gather to discuss business results. Often these meetings are partly justified on their networking creation at breaks, dinner, or in the hospitality suite. Again a little design of the seating arrangements, agenda items and informal, unplanned time can increase the likelihood that key relationships are formed.

One business manager gathers his managers from around the world for quarterly two day meetings. All managers gather for dinner on the Tuesday night before the two day session. The dinner is informal and the meeting that follows is under the control of the managers. The manager in charge does not attend. The managers from the business units have found this evening to be so successful that they are using it with their own staffs.

Events happen throughout the organization. Organization designers can capitalize on these events that would happen anyway with networks as a by-product. Still other events can be scheduled involving key interface participants like a golf challenge, volleyball game and so on. One company schedules use of the fitness center to aid team building. While heeding the norms and values of the company, the informal network can be created by designing the usual events.

In summary, the potential exists to create informal networks by adding some design thinking to activities the organization undertakes anyway. Some ingenuity applied to interdepartmental experiences, training sessions, and physical location can create informal relationships which can be drawn upon when using the lateral organization. Other policies can also be used to directly create these relationships by using information technology and making structural changes. These changes are described in the next sections.

Information Technology

One of the most powerful current and future shapers of the informal network is the new information technology. While many of us have heard these predictions for years (Simon, 1958), much of what is possible is actually happening today. In addition, the projected improvements in hardware and software make multi-media work stations an economic reality. Organizations that capitalize on this technology first and translate information technology networks into interpersonal networks will gain an advantage.

The hardware continues its relentless increase in capacity and decrease in size and weight. The raw capacity to compute, store, and transmit information doubles every one to three years depending on the technology. As a result the integration of text, video and audio applications becomes more feasible. Miniaturization continues to shrink the size of the device that we use to compute and communicate. Software advances make the user interface easier to use. Combined these advances create powerful, convenient and easy to use communication devices for all employees.

The consequence of the technology is that every person in the organization may communicate with every other person at their own discretion. The technology has the potential to remove significant barriers to communication. Barriers of time and space can be overcome as well as organizational barriers of hierarchy and departments. The technology literally opens up the organization to limitless communication. There are important policy issues for management as to how much control it will exert over these channels (Kiesler, 1986). Our interest here is in the role of organization designers in shaping relationships and networks that may result from the technology.

Informal networks or communities of interest will spring up naturally as anyone familiar with electronic mail can attest. It is very easy for someone to broadcast "Anyone interested in XXX contact sender. Next Steps will follow." When people respond, a network is born. These informal networks may or may not facilitate organizational goals. In order to increase the

likelihood of networks supporting organizational goals, organization designers can create data bases and form networks. For example an accessible personnel data base is a great aid to networking and relationship formation. The data base contains lists of all personnel along with their past responsibilities, current responsibilities, interests, skills, and so on. Then someone working on a neural net program may access all other people having neural net skills and/or interests. The network is still formed at the discretion of the individual. The data base makes the contacts easier to establish and use. The contacts can be used for answering questions, sharing ideas and establishing face-to-face meetings.

Organization designers can take a more active role and create the opportunity for networks to form. For example a mail account may be created for all managers in Sales, Marketing, Distribution and Finance whose responsibilities include WalMart. Sales could gather information from all these sources prior to suggesting a change or making a proposal to WalMart. Similarly all engineers working on design projects where Sony is the partner could share an account. Data bases on WalMart and Sony could be made available and updated. The information network can be simple or complex depending on the priority of the issue. But virtually any issue could be addressed this way. All managers whose responsibilities include a common product, project, customer, vendor, competitor, technology, union or whatever could be electronically linked. The membership for these computer conferences can also be controlled. Usually people are selected more for their expertise and knowledge than for their rank in the hierarchy.

Software is appearing which facilitates the formation of informal networks (Fortune, March 23, 1992, p.93). Lotus has produced NOTES software which creates multiple bulletin boards that can be queried and used. Price Waterhouse has 9000 employees hooked up via NOTES. Even more powerful is Groupware developed at the University of Arizona and sold on various versions by IBM and by NCR (Johansen, 1989). Video versions are currently under design. People interact using groupware by typing into the system. All people who are interacting type at once and their ideas appear anonymously on everyone's screen. The process is faster and more effective than meetings. People can type simultaneously but not talk simultaneously. People read

faster than they listen. In meetings individuals dominate. With Groupware everyone inputs equally and anonymously. Proponents see Groupware as the non-discriminatory democratization of data. The ideas and information stand alone and independently of the age, gender, ethnic group or hierarchical level of their originator. The software has the potential of eliminating the classical and here to fore enduring barriers to communication.

In summary, hardware and software advances are creating information networks that connect everyone in fast, efficient and easy to use communication systems. Already the promise of the technology is being demonstrated. In order to capitalize on the information technology network, organizations need to create informal personal networks to compliment them.

The technology connects everyone. But to be effective connection must lead to communication. For communication to occur the participants must share a common language and understanding. Companies must develop and value the sensitivities to communicate with various subcultures. Rotation policies destroy stereotypes and create people who learn jargon and languages. The company reward system needs to recognize and value these skills.

Thus information technology presents a new additional opportunity to create informal networks. The hardware and software are making it easier for ordinary people to communicate using the technology. The new technology has great potential for reducing powerful barriers to communication. When combined with personal networks, information technology networks will be an enhancer of the lateral organization.

Mirror Image Departments

One of the major inhibitors to cross unit communication and relationships is the sheer number of interfaces that must be crossed. Each organizational unit designs itself so as to facilitate within unit work and coordination. Between unit coordination is usually secondary.

The functional organizations making up a business unit are particularly guilty. A typical consumer goods manufacturing division has a sales force that is organized by geography and major accounts. Marketing is organized by brands, manufacturing by plant site and process, engineering

by product and technology and purchasing by commodity and vendor. If an engineer has an idea for a new product or a change to an existing product, he or she must communicate and convince 20 other departments. Outside of Engineering there are 4 groups in purchasing, 6 in manufacturing, 4 in marketing and 6 in sales. The frustration of communication to 20 groups is exceeded only when a small minority can stall or block the idea. The proposal can be escalated to the divisional management teams but only if there is the luxury of time and only one or a few products. When working on multiple product lines under time compression, escalation is possible for only a few high priority ideas.

Some organizations are speeding decision by creating lower level equivalents of the division staff for each product or customer segment. These organizations are aligning structures so that each function presents a single interface to the other functions for each product or subproduct. In Figure 2 below, an airframe manufacturer has organized each function by major section of the aircraft. Each function has a wing department and so on. There is the equivalent of the division
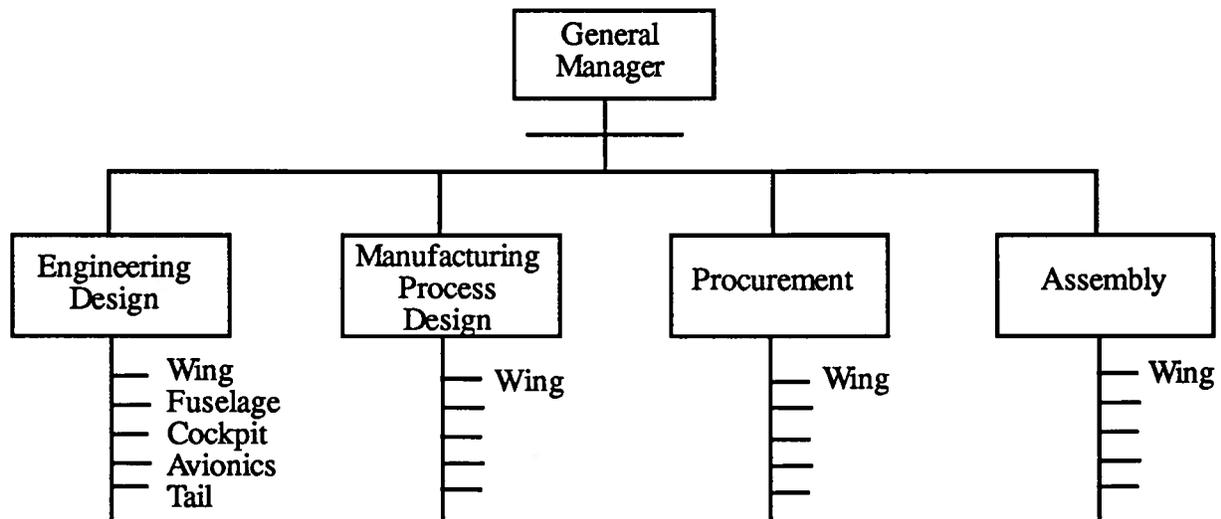

Figure 2
Mirror Image Functional Structure

staff for the wing, the fuselage and the avionics. There is a clear line of sight through the division for the wing. An engineer making a change will have 5 or 6 units, not 20, with which to negotiate. Each of the 5 or 6 functional managers will be responsible for the wing. All of the members of the

network have the information and authority to decide. The communications will be faster and probably more effective as a result. Relationships among the people can more easily be created and maintained. Each functional organization is a mirror image of the other. The collection of all wing units becomes the equivalent of a general manager for the wing.

The good news is that the speed of communication, decision making and action will be faster. The bad news is that the function may lose specialization or duplicate people for each product section. Some companies will choose speed over duplication to get time to market. Others will create a matrix within the function. Quality will organize by major section of the aircraft but also by support units for specialists in statistics and non destructive testing. Another unit using expensive test equipment will centralize and share the equipment across all aircraft section units. The complexity will be managed within rather than between the functions.

Thus structural changes can facilitate the formation of relationships by creating mirror image functions or units to be coordinated. The change minimizes interfaces and the number of people to know and with which to work. Managers can know each other better and share a common responsibility. The likelihood of voluntary cooperation will increase.

Reward and Measurement Systems

One of the keys to aligning the interests of the informal organization with those the company is the reward and measurement system. To the degree that clear, acceptable, and understandable measures can be articulated, the power of the informal networks can be channeled toward company goals and performance. Considerable progress has been made recently toward removing interunit barriers and aligning interests.

Different and incompatible goals have always been a barrier to cooperation across units. The company quality programs have been a major factor reducing the incompatibility between goals. Each unit now surveys its customers for what they need from the providing unit. Usually the customers priorities are different from those of unit's boss. These differences have been escalated to the management teams. Most companies are now setting goals which are consistent

across units and are less of a barrier to cooperation. The most powerful force however has been the articulation of a single overarching goal that can guide all of the units which need to communicate and cooperate. Some companies have formed a total supply function which combines Engineering, Purchasing, Manufacturing and Distribution in a single unit. They have been measured by a Total Delivered Cost metric. The metric allows tradeoffs between different costs incurred by the different functions. Total delivered cost to the customer is the conflict resolver. It is also the basis for measuring and rewarding people in the functions.

Today more companies are using a measure of time as the overarching goal measurement (Stalk and Hout, 1990). Cycle time or time to market is becoming a common goal shared by everyone along a work flow. People can identify with time ("time is money"), measure it and understand it. Hewlett Packard uses a measure of Break Even Time (BET). It measures time from the start of a new product program to the time when the product revenue matches costs invested in the product. It measures not just speed but quality. They do not want to be fast to market and then repair the product in the field.

These overarching goals serve as criteria for cross unit decision making and measures of performance for rewarding accomplishment. They align goals across units and give them unity of purpose. The goals also serve to align the interests of informal groups with those of the organization.

The other purpose of the measurements is to incent cooperation. Cooperation or integration is the ultimate purpose of the lateral organization. As shown in Figure 3 below, the practices
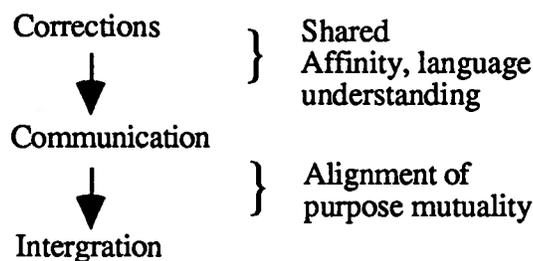
Corrections
↓
Communication
↓
Intergration

} Shared
Affinity, language
understanding

} Alignment of
purpose mutuality

Figure 3
Levels of Lateral Organization

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described in this paper establish connections between people. Common locations and personal computer networks connect people. When there is some affinity for each other shared language and understanding, connection leads to communication. The sharing of information and ideas within the informal network can lead to substantial payoffs. By itself, communication may justify the cost of the practices to create the network. But the real payoff, in addition to communication, is the achievement of integration and coordination across organizational units. The voluntary and spontaneous integration will occur if goals are aligned across units and payoffs are mutual. That is, it takes an organization that is designed to act spontaneously and voluntarily. The design combines the various practices described above. Relationships are created through events and rotational experiences. Relationships are used for communication through co-location and information technology. Communication is then used to integrate action so as to achieve aligned goals. The result is the lateral organization which is a lasting competitive advantage.

An Example--Cathay Pacific

An example can bring the above discussion to life. Cathay Pacific is the airline of Hong Kong. It has offices throughout the world and routes which connect them. These far flung activities are integrated with an effective lateral organization.

Central to the functioning of the lateral organization is the overarching goal of route profitability. What is important is to make routes profitable not individual countries. For example, a route may run from Seoul to Hong Kong to Bangkok to Bahrain to London Heathrow. The airline does not want to book a piece of business from Seoul to Bangkok if its precludes booking a more profitable piece of business from Hong Kong to London. On the other hand, if it is a good Seoul customer and another booking can be made from Bangkok to London, priority should go to the Seoul customer. All of this discussion takes place between managers in the countries and managers of routes. These discussions take place hundreds of times each day under time pressure. Once the plane takes off, the opportunity is lost. So Cathay Pacific is a very communication

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intense organization constantly meeting deadlines around the world. The decisions are guided by route profitability measures.

The system could not be managed without a world-wide reservation system. Therefore all offices are connected with terminals and PC's in a world-wide telecom network. The network maintains global seat and cargo inventories around which the negotiations take place. Telephone and increasingly video contacts become the vehicles for discussions. But it is the marriage of the world-wide information technology network and the informal network that makes Cathay Pacific effective.

The informal network begins with the selection process. Recruits are selected by John Swires whose family has run trading and shipping businesses out of Hong Kong for generations. Each year he selects 5 or 6 graduates from Oxford who he believes will thrive in the Far East. Their personalities are low ego, self effacing types. He dines with them and refuses to hire anyone with whom he cannot enjoy a good meal. The result is a group of managers who are English speakers, share a common background and among whom there is a great deal of affinity. The managers rotate between countries, functions, routes and headquarters. Recently the author met the Vice President of Personnel for Japan. Previously he ran Korea. He is an Australian who speaks Japanese and Korean. There are quarterly meetings in Hong Kong for the top managers of countries, routes, and functions. Members of the top 250 manager groups participate in management development programs conducted by INSEAD. Swires likes INSEAD because it is located in Fountainbleu, France. There is nothing to do in Fountainbleu and it is too far to travel to Paris and back in the evening. The managers who participate in the program, twenty five at a time, have nothing to do but work together on business cases for three weeks. At the completion of the course, Cathay Pacific has 25 trained managers and 25 people who know each other very well. Each class recreates the company in micro-cosm. They represent responsibilities from countries, routes and functions. Upon completion of the course, they will return to positions around the world to negotiate for route profitability.

In summary, Cathay Pacific has blended the practices of selection, rotation and training not only to develop people but to create an informal network. This network is tied together by a world-wide telecommunications network showing seat and cargo inventories. These inventories are constantly changed, updated and negotiated in order to maximize route profitability. Collectively these policies created by John Swires compose the lateral organization of Cathay Pacific.

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