



*Media Communications Group
Strategic and Long Range Plan*

For Internal Use Only

MEDIA COMMUNICATIONS GROUP
Strategic and Long Range Plan

digital™

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MASSBUS

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MicroVAX
PDP-11
Professional
Q-bus
SBI
UBA

ULTRIX
UNIBUS
VAX
VAXBI
VAXcluster
VMS

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Book production was done by the Educational Services Media Communications Group in Bedford, MA.

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Introduction

Strategic Planning is the design of a preferred future and the invention of ways to bring it about.

Peter Block
The Empowered Manager

Designing a preferred future and inventing ways to bring it about have occupied a significant portion of the MCG management team's efforts over the last few years. This publication will document the results of those efforts and communicate them to everyone in the MCG organization.

The plan is organized into three parts:

- MCG Today
- The Changing Environment
- MCG Tomorrow

MCG Today describes the business of MCG, including our workflow processes and recent financial record. The changing environment faced by MCG is documented in the second part of the plan. MCG Tomorrow first provides our vision of MCG's future, then outlines the strategic directions including operating goals, business goals and specific programs that will take us to this preferred future.

At the very start of the plan you will find our mission statement and charter. The mission is a statement of what business we are in. It expresses our purpose. A charter statement represents our license from the company to conduct business.

Our "vision" for MCG is expressed in MCG Tomorrow. A vision differs from the mission statement or charter in that it is a dream of what we wish MCG will someday become. It's a philosophy of how we're going to manage the business – it expresses our values and the contribution we want to make to Digital. It simplifies the world and implies anything is possible. It's very similar to a credo, core values or guiding principles. It represents something we always aspire to but rarely attain.

In reading the vision statement created by the MCG Management Team, you should formulate your own within the framework of the one presented here, based on the contribution you want to make to MCG and Digital. Yours can be different but it must be complementary. Only you can create your *own* future, but it will take us all working together toward a common vision to create a *preferred future for MCG*. Toward that end, this plan is dedicated.

MCG TODAY

The Business of MCG

MCG contributes to Digital's success by fulfilling the Corporation's needs for communications services. Operating under the umbrella of Educational Services, we serve the entire Corporation in a role similar to that of an outside communication agency. That is, our funding sources are uncommitted and have the latitude to purchase their services from the vendor of their choice. Because of this, the success of our business depends on establishing a symbiotic relationship with our internal clients, built on mutual trust, confidence, and needs fulfillment.

What sets us apart from an outside agency, however, is that we're a stakeholder in the Company. As a Digital stakeholder, we're always motivated to add value, to solve a broader set of communications problems, to invest in Digital's communications needs, to reduce the cost of communications, and generally to supply better service than any vendor.

As an internal organization we are intrinsically linked in a *honeycomb*-like fashion with Digital's Corporate goals, objectives, and strategies. From this unique vantage point we serve an indispensable role in helping Digital meet its goals, as suggested by Figure 1. In this role, we deal with proprietary information, retain product and Company knowledge, build on our work to maintain consistency and continuity, have access to clients and subject-matter experts through the Digital network, are convenient and ready to serve, and can handle much higher volumes of work than any single vendor.

Since we function as a cost center as opposed to a profit center, our contribution to the Corporation lies in continually improving the effectiveness of our communications while reducing the costs of producing them.

To contribute to the Corporation, then, we must efficiently design, develop, produce, duplicate, distribute, and archive the communications that effectively motivate prospective Digital customers to buy Digital products and services. Although as a total organization, we specialize in motivational communications (see the box on page 9), MCG production groups support the efficient production of *all varieties* of communications through our full-service, value-adding facilities.

MCG Mission

To become the leader in industrial communications by helping to reduce the overall cost of sales, focusing on profitability, earning the vendor-of-choice reputation, developing full-service capability, achieving effective use of technology, serving as catalysts for change, and committing to the success of our customers, Educational Services, and Digital.

MCG Charter

To design, develop, produce, duplicate, distribute, and archive communication tools in support of our customers' objectives to create new customers and sell Digital products and services; to ensure that Digital efficiently communicates its product and service advantages with the right message, to the right audiences, at the right time, and in the most effective media; and to provide skilled Media Communications resources to Educational Services and the Corporation, resulting in the following communications capabilities, services, and products.

A/V Collateral	Imaging
Accounting	Interactive Television
Analysis	Measuring Satisfaction/Quality
Books	MicroMedia
Brochures	Networked Images
Camera Operating	Photography
Communications Training	Planning
Computer Gen. Slides	Presentation Support
Conceptual Design	Print Production
Consulting	Producing
Color Pre-Press	Product Announcements
Digital Video Network	Project Management
Direct Marketing	Project Reporting
Directing	Project Tracking
Documentation	Proposal Support
Editing	Sales Collateral
Electronic Publishing	Speaker Mentoring
Exhibits	Speech Writing
Film Processing	Storyboarding
Film Productions	Technical Journalism
Flyers	Typesetting
Graphic Design	Video Productions
Illustrating	Video Text
Image Archives	Writing

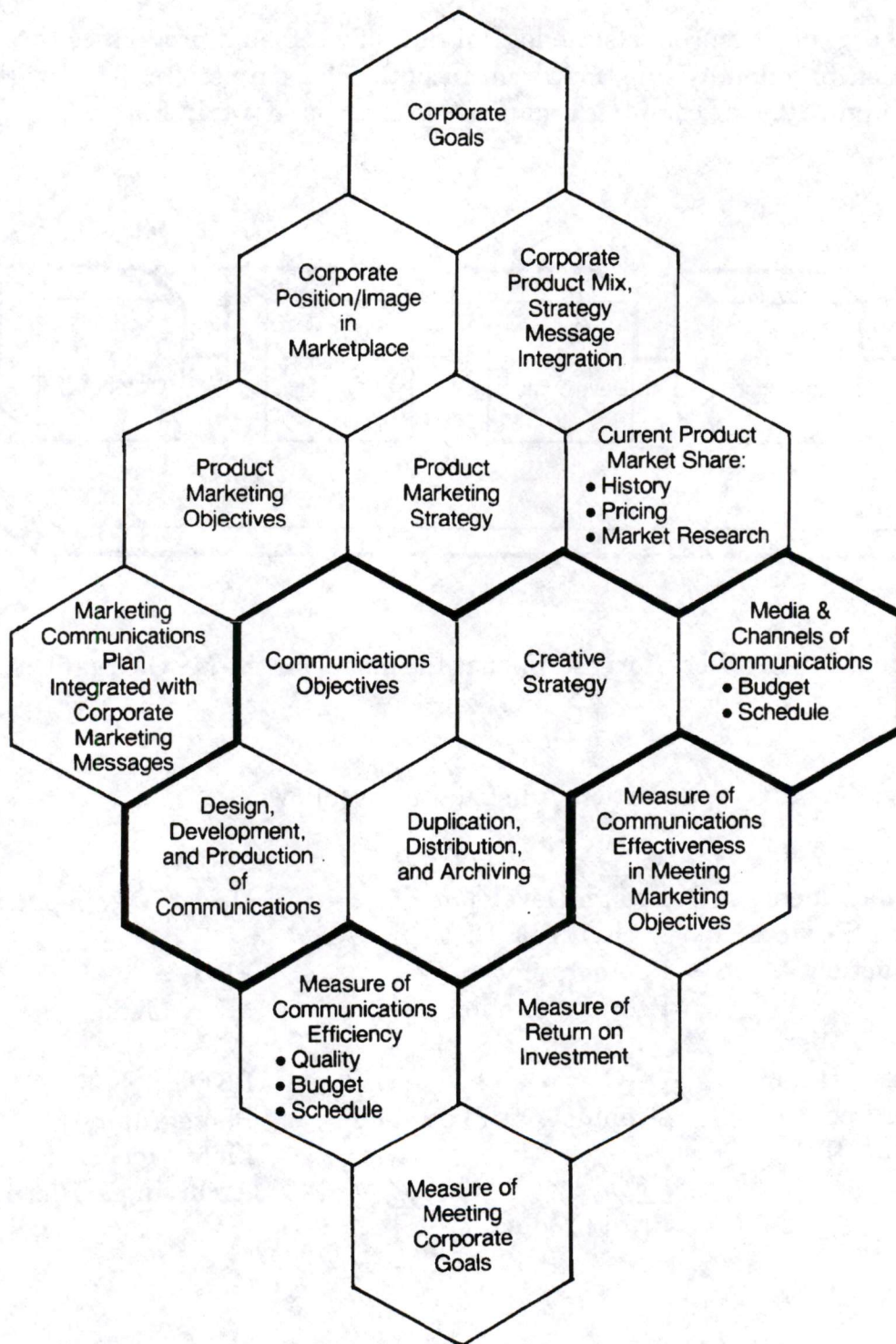


Figure 1. The Honeycomb of Corporate Communications shows the interdependence of strategic functions necessary for effective communications, and accentuates MCG's pivotal role (heavy lines) in helping the Corporation meet its goals.

Organization and Workflow

The MCG organization reflects the logical flow of work as it progresses through the organization function by function, from inception to completion. This workflow is shown in Figure 2. The complete organization chart is shown in Figure 3.

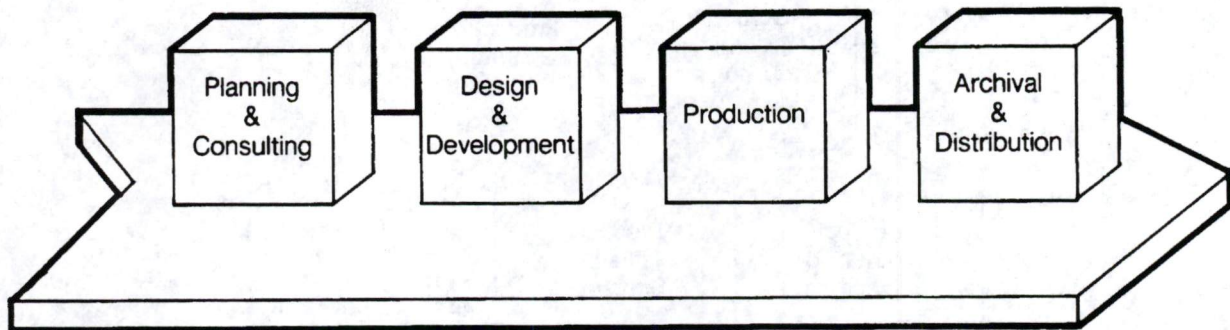


Figure 2. The Workflow establishes the model for the MCG Organization

Currently, the MCG organization is distributed as follows.

BUO

MCG Management
Publishing Services
A/V Production
DVN
Archiving & Dist.
System Integration
Computer Images
Print Production

MKO

Design/Development
Archiving & Dist.
Photography
Print Production

OGO

Graphic Arts Photo-Lab

CFO

Print Production

MRO

Design/Development

FPO

Micro Media

PKO

Photography
Field Video
Archiving & Distribution

Media Communications Group

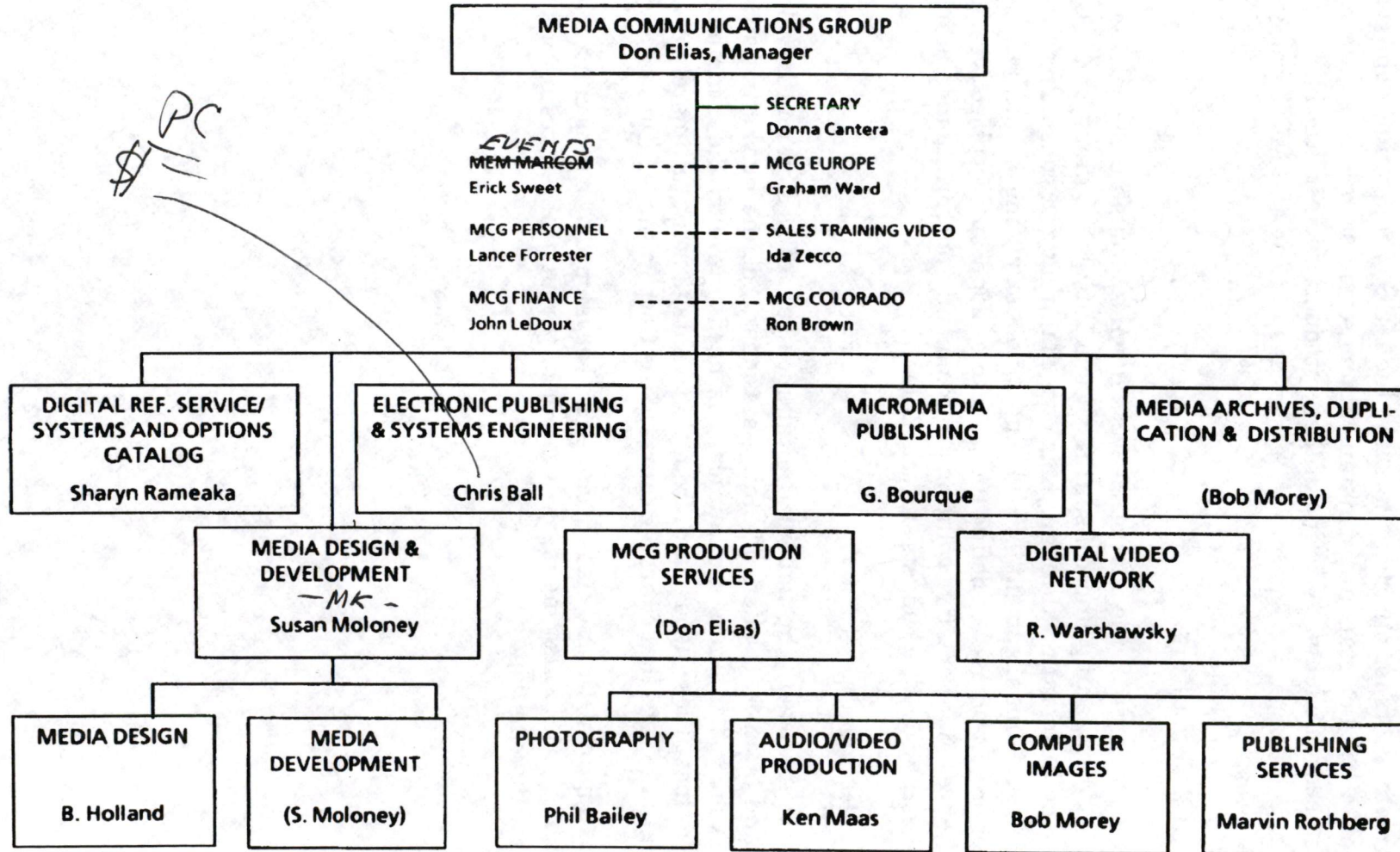


Figure 3. MCG Organization Chart

MCG Processes

There are many doors for our customers into the MCG organization. The complete spectrum of tailored or standard communications services are offered according to the unique needs of clients. A listing of these products and services is found in the MCG Charter on page 4. The following sections outline the MCG processes for offering services.

Planning and Consulting

As suggested by Figure 2, the bulk of the work flowing through MCG enters through the activities of planning and consulting. Each functional group of MCG offers services to the Corporation through their own planning and consulting functions, including project management. Planning and consulting typically result in proposals or project plans that define the work to be done, specify objectives, identify target audiences, offer creative solutions, recommend appropriate media, methods, and messages, and outline budgets and schedules.

Design and Development

Meeting with managers throughout Digital, members of Design and Development assist in, and often lead, client planning sessions to define marketing strategies, objectives, and goals; assess communications needs; develop the communications strategies to meet these needs; and, from that vantage point, ultimately create the communications plans that chart the course of the Corporation's future.

After client approval, the project is designed and developed by a project team led by a project manager, who also manages the project through all stages of production, archival, and distribution.

Motivational Communications

Communication is essential to all aspects of business. To be successful, a business must continually communicate with its stockholders, its employees, its suppliers, its community, and, most importantly, with its customers. Customer communication has two broad objectives:

- To create new customers. That is, to motivate prospective customers to buy the company's products and services and begin a long term relationship.
- To keep customers delighted. That is, to teach them how to get the most out of their investment so they will value the relationship and buy more products and services.

Classifying customer communications according to these broad objectives, the first can be called motivational, the second tutorial. They differ in that motivational communications always requires special, custom design. For motivational communications to succeed it must attract attention, arouse interest, achieve conviction, and motivate action. Failing the first means it never has the opportunity to achieve the second. Achieving the first and failing the second means it never has the opportunity to achieve the third, and so on. To succeed in attracting attention and ultimately achieve its objectives, motivational communications must stand out from its surroundings, it must be different, one of a kind. Ideally, it should be unique, but still project a consistent Company image.

Because of these stringent requirements, a particular motivational piece is often directed to achieve only one or two of the sequential objectives. For example, the objectives of a high-level brochure or video tape may be to create an image for, or inspire confidence in, the company. Thus, they need only attract attention and arouse interest, leaving conviction and action to other communications pieces, such as product brochures, info sheets, or even the sales force. On the other hand, a direct mail piece must accomplish all four objectives. Motivational communications continually strives for the perfect balance of consistent Company image, good taste, and results. In summary, motivational communications differs from other types of communications in that it requires creative, tailored design. The work process is based not on the traditional assembly-line-based manufacturing model, but rather on the creative, work-group-based engineering model.

A la carte Services

Not all MCG work is planned, developed, and managed from start to finish by MCG project leaders. Our communication services are also available to our customers on an *a la carte* basis, in which we handle a portion of a project, often the production. As in all of our work, the goal is to add as much value as possible to the message and medium of Digital's communications.

MCG Production Services includes Publishing Services, Computer Images, Audio/Video Production, and Photography. Publishing Services offers *a la carte* services through its editing, typesetting, graphic design, and color pre-press operations. Audio/Video Production offers *a la carte* services for corporate film production needs. Computer Images prepares presentation graphics to customers outside of MCG. Photography offers shooting services and development to corporate clients.

Systems Integration offers engineering services that support electronic publishing/image processing development and implementation, and the general automation of translation, production, and on-line distribution of communications.

Print Production and Design/Development provide a variety of purchasing- and vendor-relations services in the outside purchase of goods and services for communications projects, including the initiation and management of all the associated paperwork.

The Design and Development group offers *a la carte* services such as writing, A/V producing and directing, graphic design, slide design, slide production, and direct marketing.

MicroMedia Publishing and the Digital Video Network (DVN)

Two MCG groups are more or less self-contained because of their specialized media: DVN and MicroMedia Publishing. DVN programming is initiated through the Programming Manager, who contracts with Design/Development for program design and execution. MicroMedia Publishing provides microfiche creation, storage, retrieval, and distribution services for the Field Service organization.

Financial

Project Billing and Tracking

MCG bills for its services based on competitively-priced unit charges for labor and the use of equipment and facilities. These fixed charges are set relative to the added value of the service, and are established solely on the basis of meeting our commitment to the Corporation of breaking even at the end of the fiscal year. The cost of a specific project, then, is relative to the time necessary to complete the different functions involved, with the true performance measure resting in the actual cost versus the client-approved budget.

Project billing and tracking are accomplished through our automated Project Management System (PMS). Labor hours are input on-line weekly by each individual charging to a project. PMS converts these hours to dollars according to the unit rate of the service performed. Charges for the use of equipment/facilities, and for outside purchases are handled in a similar fashion. At the end of each month, these dollar charges are journal-vouchered to the cost center or discrete project number, whichever the client specified, and show up as expenses on the client's monthly cost center report.

Since MCG continuously maintains an accumulative record of all weekly project charges, roll-ups are made available to clients on request to track project spending versus budget or to determine final project costs. Over time, the focus will be on the planned versus actual spending as the key measure.

Financial Performance

Meeting our financial commitment has always been the hallmark of MCG's success and will always remain chief among our operating goals. The measure of financial performance for organizations such as MCG, which operate on a zero-based budget, lies in the year-end variance. The variance, expressed in dollars, is the difference between billings and expenses:

$$\text{Variance} = \text{Billings} - \text{Expenses}$$

The goal is to end the year with billings and expenses equal so that the variance is zero. When billings exceed expenses, the variance is a positive number and is therefore referred to as favorable. Conversely, when expenses exceed billings, the variance is a negative number and is referred to as unfavorable.

Although the terms positive and negative (or favorable and unfavorable) are used to indicate the direction of the variance, a large variance in either direction is considered poor performance. Most managers will concede, however, that it's much better to be on the positive side of zero than on the other.

MCG's financial track record over the last four years appears in Figure 4, where the variance is expressed as a percentage of the total budget. The variance swings have stayed within $\pm 1.0\%$ of zero, with a four year average of $+0.2\%$, indicating an excellent financial performance. Although the negative variance for the last two years could be interpreted as a trend, most likely the 1988 figure is the result of reducing the unit rates for some services at the beginning of the year.

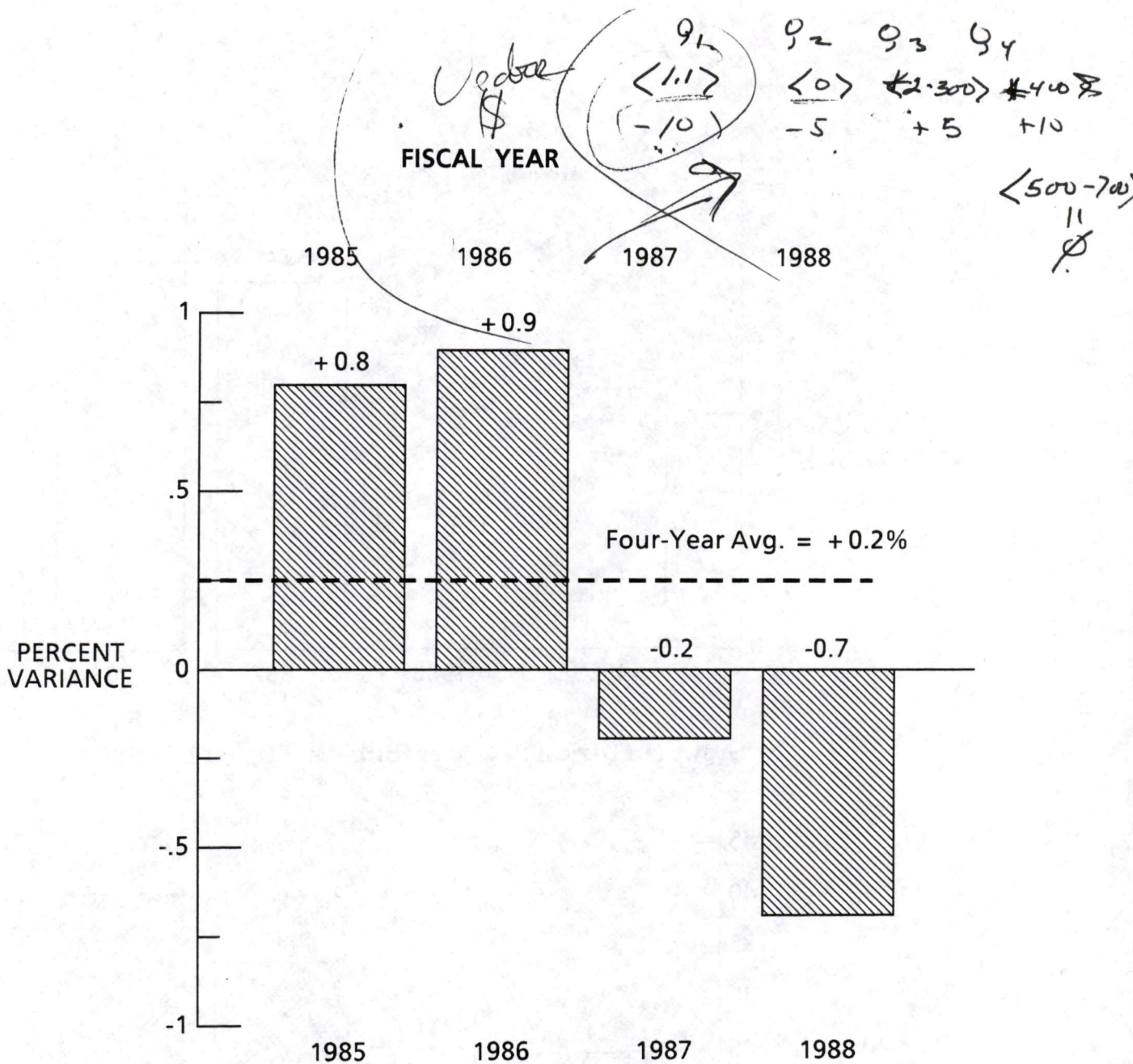
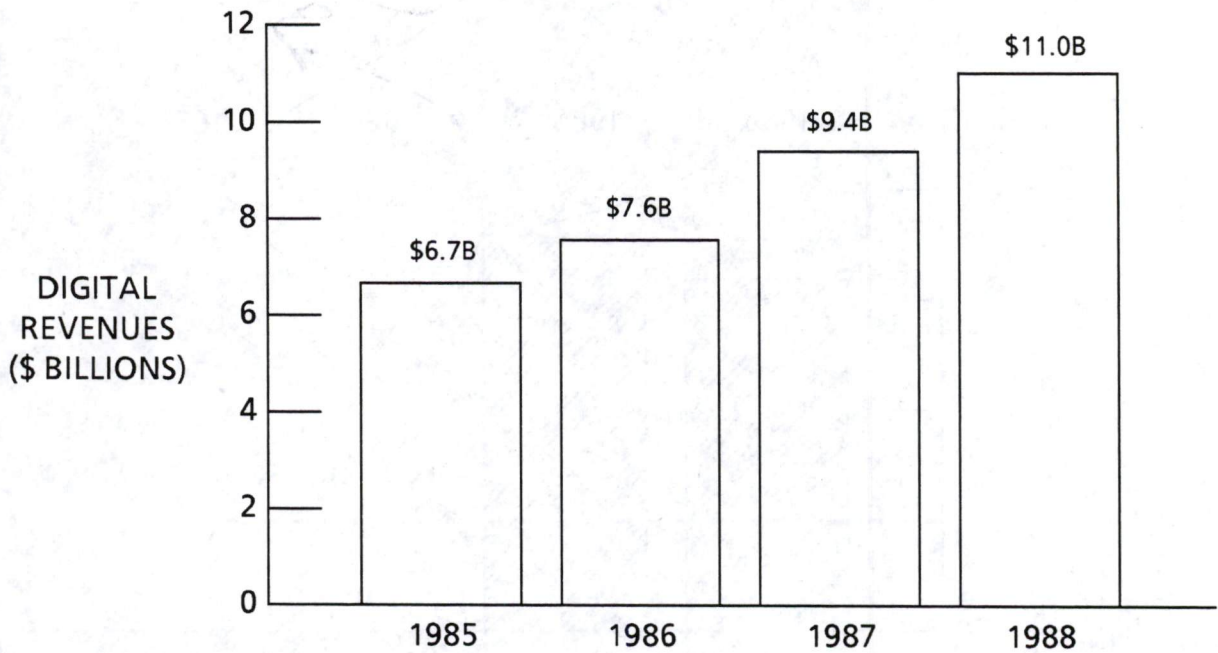


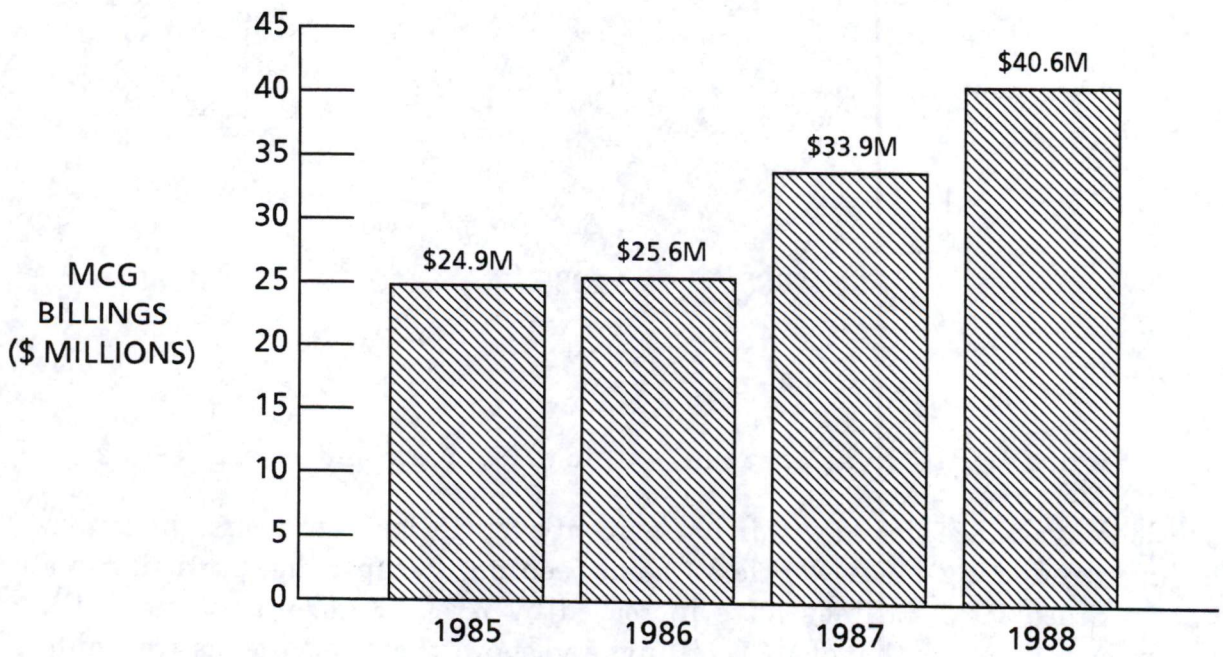
Figure 4. MCG Variance runs within $\pm 1\%$ of zero and averages $+0.2\%$

While the variance stayed within one percent over the last four years, the total MCG billings (reflecting MCG workload) have been on the upswing, particularly since 1986. Since 1985, billings have increased by 63%. Figure 5 compares Digital revenue growth with that of MCG billings and shows that the patterns are similar.

Although Digital and MCG growth rates are tracking, Figure 6 reveals that MCG billings are growing slightly faster than the Corporation's revenues, which could be indicative of Digital's increased emphasis on communications.



a) Growth in Digital Revenues (Billions of Dollars)



b) Growth in MCG Billings (Millions of Dollars)

Figure 5. Digital Revenues and MCG Billings show similar patterns

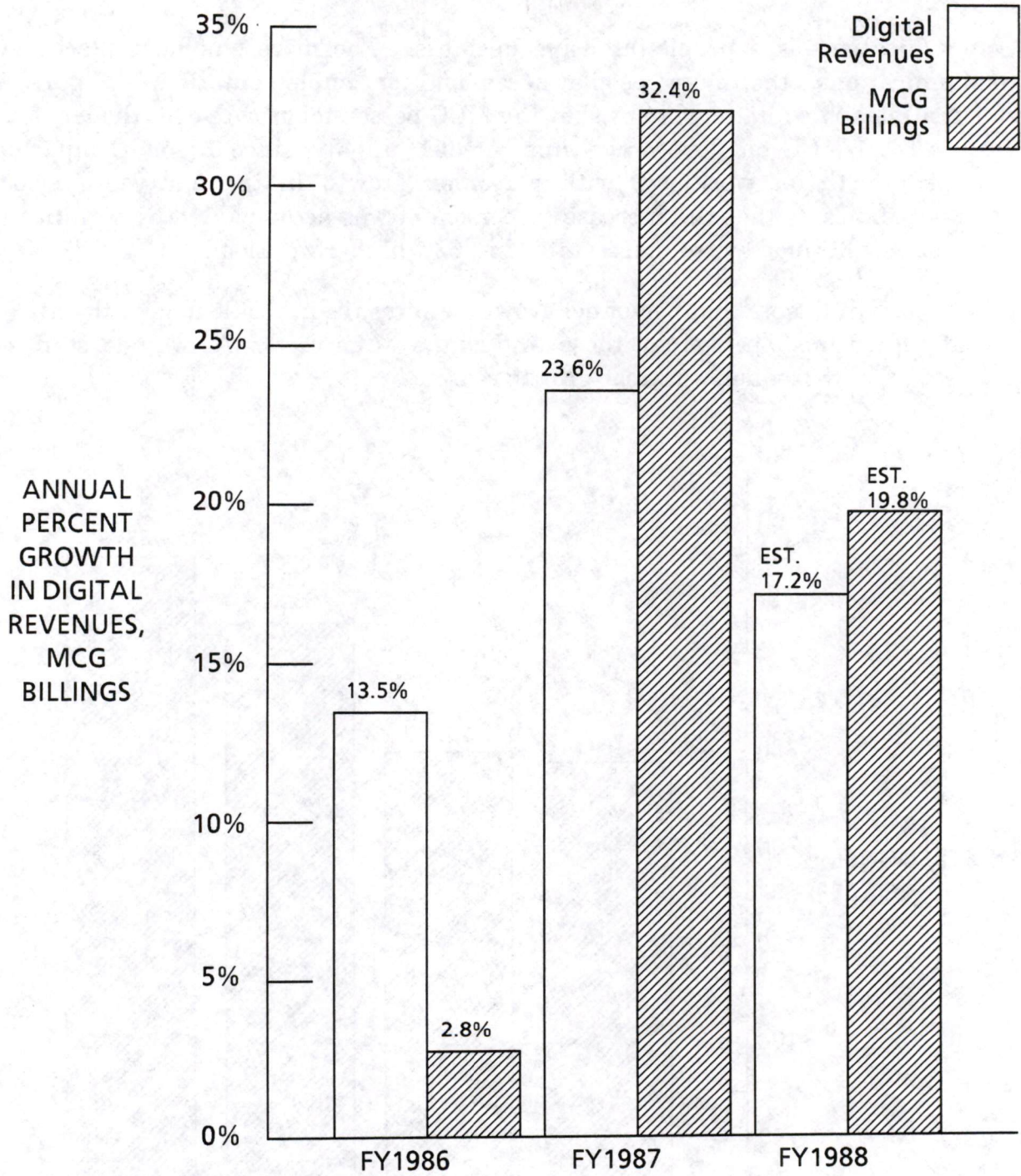


Figure 6. MCG Billings are growing slightly faster than Digital Revenues

Personnel

Communications is a people-intensive business. The more emphasis placed on communications, the more people necessary for implementation. Figure 7 substantiates this relationship by showing MCG personnel growth over the last four years. Total MCG employees now number 351, up 43% since 1985. Comparing billings growth (or workload) with personnel growth in the four-year period, however, indicates that the increase in personnel was accompanied by significant efficiencies: 43% more personnel resulted in a 63% higher workload.

It is important to note that personnel growth will result in workload growth only as we add direct-labor personnel, those who charge to projects. As we add staff, or indirect-labor personnel, workload growth ceases.

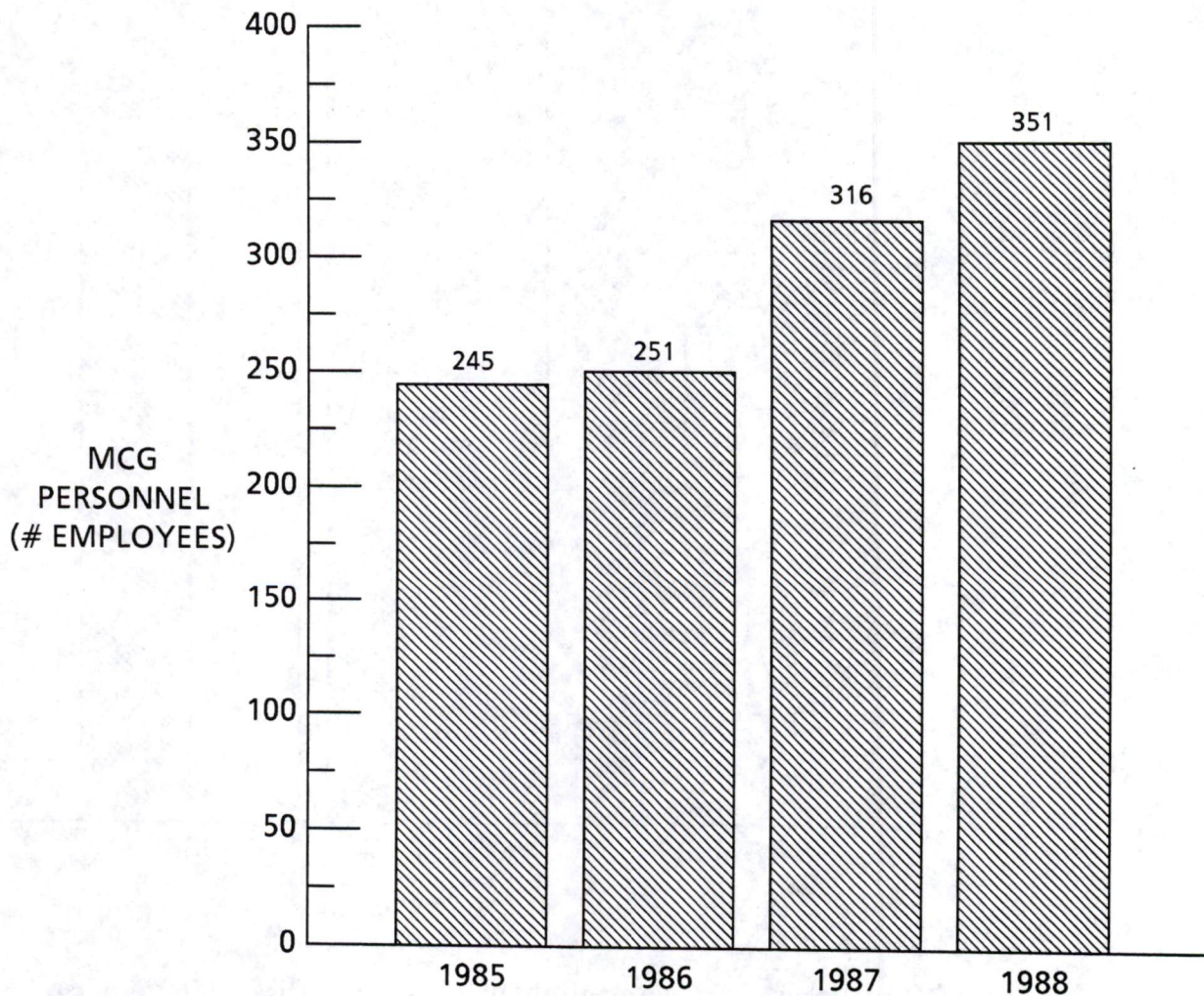


Figure 7. MCG Personnel Growth

As Figure 8 shows, since 1985 the Corporation has seen output per worker in terms of revenues increase by 19%. MCG has also shown a decidedly upward trend in average workload per worker. In the last four years, this output has risen by 14%, over half of which (7.5%) occurred in the last year alone. The obvious conclusion is that MCG's investments in people are, indeed, paying off. We must continue to emulate the Corporation in our efforts to improve our efficiency.

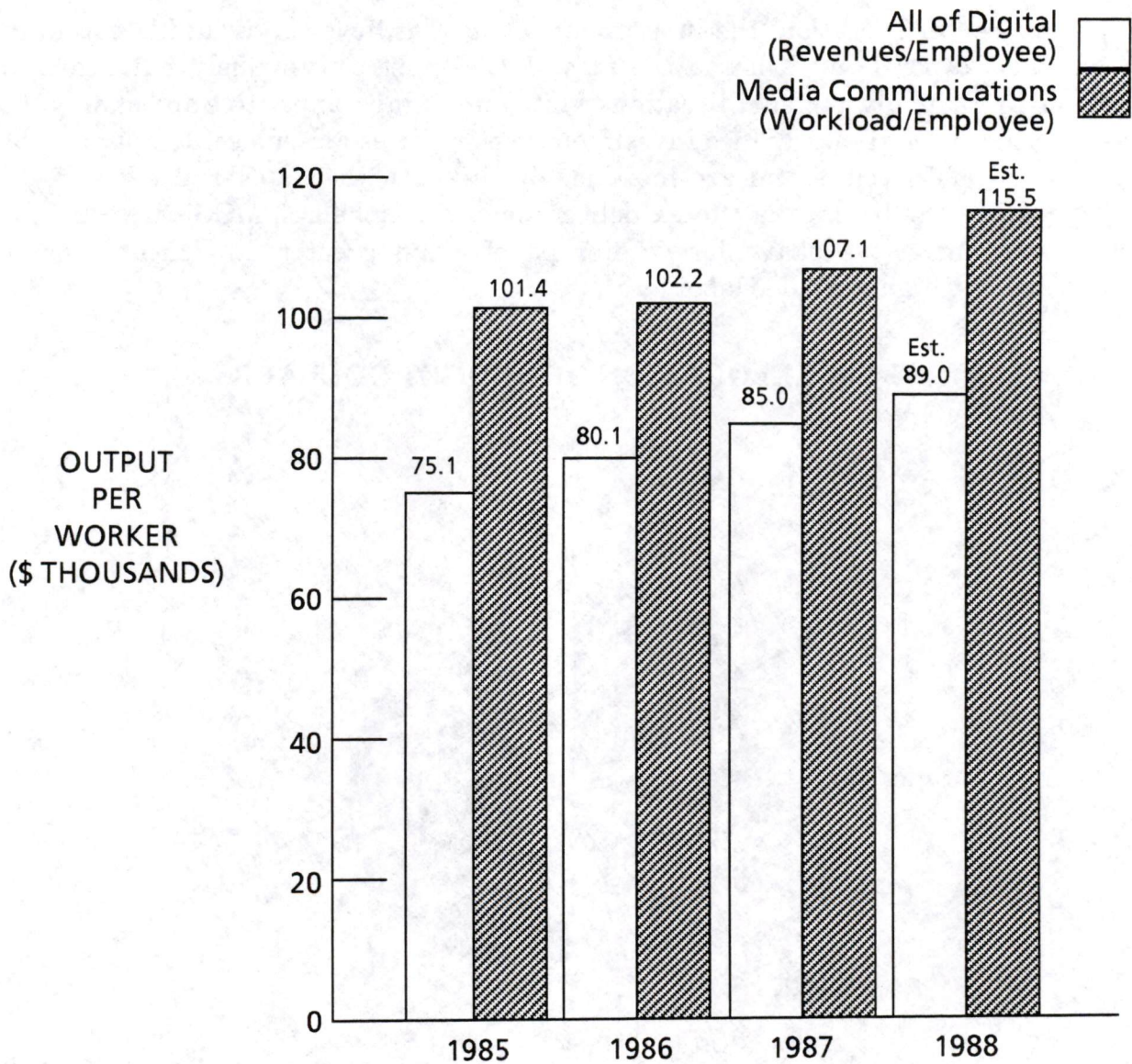


Figure 8. Digital Revenues/Employee and MCG Workload/Employee are Rising

Investments

The overwhelming share of MCG investments are in people, as reflected in Figure 9 under two categories: *Investments* and *Labor/Fringe Benefits*. Allocations for investments include training, research and development, PMS development, and public relations activities such as the MCG Portfolio and the annual operations review presentation to the Educational Services Management Committee.

In a cost center operation, the investment category is never a given; it's not a gift from the Corporation. On the contrary, MCG must continuously balance unit pricing to create investment allocations while remaining competitive and ending the year with zero variance. Since investment expenditures are subject to approval by the Board of Directors and are inextricably linked with the overall state of the Corporation, the balance is often a delicate one. Nevertheless, MCG's investments will continue as we strive for greater payoffs and greater efficiencies from a progressively higher-skilled labor force.

FY89 ALLOCATION OF BUDGET DOLLARS

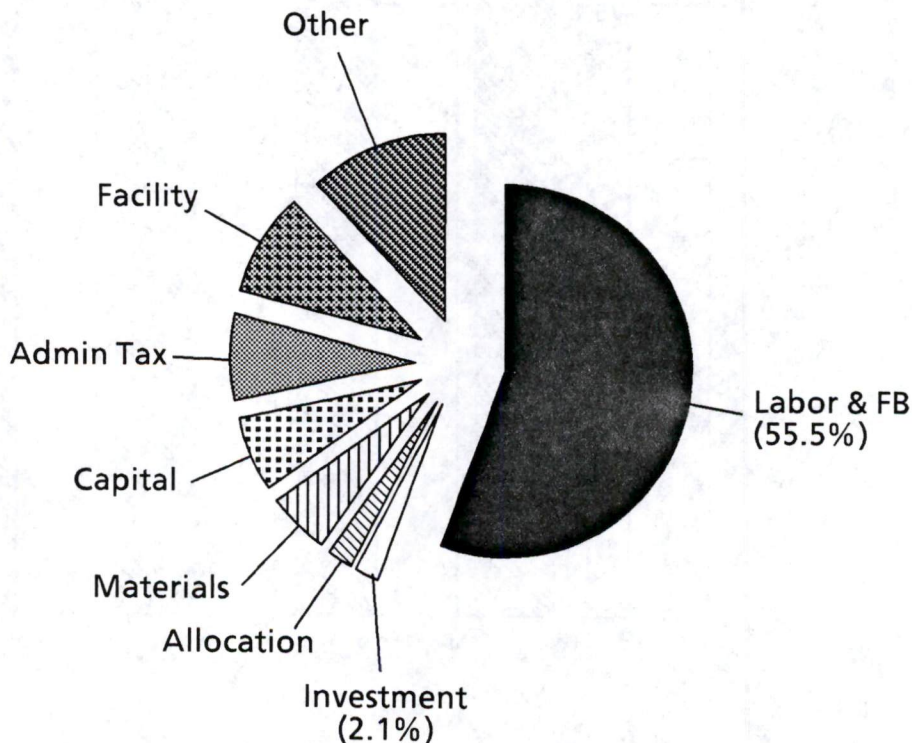


Figure 9. MCG's Allocation of Budget Dollars

Most of the labor hours of MCG are directed toward the completion of communications projects, the mainstay of our business. However, a larger and larger portion is being focused on Corporate programs. As this Corporate-program focus increases, MCG management is cautiously looking outside MCG for investment money that will allow us to lend our communications expertise to the Corporation and still go about the business of MCG.

THE CHANGING ENVIRONMENT

Analyzing the Environment

Designing a preferred future requires analyzing the major forces, both external and internal, that hold the greatest potential for influencing our operations. Operating under the umbrella of Digital doesn't protect MCG from the external forces that affect Digital. Currently, Digital faces environmental factors such as:

- Cyclical changes in the market's perception of Digital
- The globalization of the economy
- Changes in the demographic composition of the workforce
- Advances in technology

Although these forces can have a potentially wide-ranging effect on Digital, and therefore on MCG in the long term, it's likely that internal forces will have a more immediate, if not greater, impact on MCG as an organization. Internally, important environmental factors include:

- The Company's desire for standardization in our communications, with no loss of excellence.
- The integration of new personnel with different styles of work into the MCG organization.

Regardless of the origin of the forces tending to shape our future, we need to consider their potential impact so we can make them work to Digital's advantage in the design of a preferred future based on client needs.

External Forces

The Market's Perceptions

The most volatile of the external forces affecting Digital are the cycles of the market's perception of Digital's product strategies and earnings performance relative to the competition. Currently, the market appears to be questioning Digital's product strategies, resulting in a softening of new orders. We believe this actually represents a lag in the market's understanding of the power of Digital's style of computing.

Being the best networked company in the world, means that Digital is the only company in the world with the know-how to create meaningful strategies for products that the world will need in the future. If a company hasn't networked itself, how can it, first of all, design systems that can be networked effectively, and secondly, help their customers become networked? The competition, with its emphasis on system price and performance, may enjoy a marginal, short-term success in the marketplace, but only until customers realize that the real value of a computer system lies not in its low price and high performance in isolation, but rather in making a whole enterprise more productive through networking. This is the message that we, as communicators, must get across to the marketplace. When we do, the marketplace will have to rely on Digital for help in shaping the world of the future. This in turn will produce even greater demands on MCG and our already busy communications resources.

The effects of the market's current perception of Digital will probably be short lived. The effects of changes taking place in the overall economy, however, will occur more slowly, last longer, and be more pronounced.

The Global Economy

The futurologists tell us that we're shifting from a manufacturing economy to an information or service economy. Although it's true that many companies, Digital among them, receive over half of their revenues from the sale of services, this does not mean that there is any less manufacturing going on. Although manufacturing in the U.S. has become a smaller share of the national economy, manufacturing worldwide is still continuing at a brisk pace, much of it financed by U.S. corporations. Manufacturing has not been eliminated from the economy but only internationalized under the same ownership.

This means that we can no longer think merely in terms of a national economy - we must think globally. Digital is an international company. Less than a decade ago, the bulk of our revenues came from the United States. Today, slightly over half are generated in Europe. By the end of the century, our top revenue producer will be the General International Area. This shift to a global economy opens vast new markets requiring major changes in Digital's communications strategies. These changes will present major new challenges for MCG: internationalizing our communications, distributing them internationally, and recruiting skilled resources from the emerging workforce to meet the increased demands for communications.

A Changing Workforce

By the year 2000, the workforce demographics will be significantly different from those of today.* A much more racially and ethnically diverse workforce with an older average age may require some change to traditional corporate structures and will also offer many, potentially great, rewards to the company.

The changing workforce accentuates the need for working towards our vision of creating an environment in which people feel they can succeed – one that makes people want to work for us. A diverse workforce is compatible with our need to communicate with a more and more diverse audience. Studies have shown that a diverse workforce can improve the productivity of creative groups.

The challenge presented by the changing workforce lies in developing internal training programs to bring new hires up to speed quickly. The programs will have to address our processes, our functional disciplines, our culture, and our technology.

Technological Change

Technology, at last, is beginning to catch up with some of its promises relative to communications. To be sure, technology has had a major impact on communications in the last few years, particularly in improving the efficiency and quality of production and in bringing the costs of published material and moving-image media to within the budgets of a wider range of users. In the early 1960's, however, some believed technology would virtually eliminate the human factor from the creation, design, production, and distribution of communications. Within a few short years, the reasoning went, all the sparkling copy and supporting images expressing the great ideas would be stored in a central data base. Anyone would be able to sit down at a terminal, retrieve the copy and images, re-order them in any combination, and convey any message imaginable in any media. The target date? 1975.

Promises like these have converted most communicators into techno-skeptics, skeptical of any prediction involving time frames and/or performance predictions associated with technology and communications. However, skepticism must not overwhelm our awareness of and understanding of new technologies. Communications technology has advanced greatly in recent years and while the advances will mean change for MCG, they will provide many new opportunities for us as individuals and as an organization.

*Refer to *Workforce 2000*, by William B. Johnston. Published by the Hudson Institute, Indianapolis, Indiana, June 1987.

A View of the Future

The technology is now available to allow great strides in communications. The limitations are those of software definition/standardization/design time, designer/user coordination, and that old standby, hardware costs (with hardware costs falling rapidly).

At the risk of raising the ire of the techno-skeptics, we can project, with reasonable probability, that, within the next five years:

- Digital will be networked with 25,000 customers.
- Through the auspices of MCG's Imaging/Publishing Services, Educational Services will deliver to customers on-line training and user documentation combining text and color graphics in each customer's choice of media.
- The Digital Video Network:
 - Will be installed in all 150 U.S. and Canadian locations for 100 percent field coverage.
 - Will be networked with key Digital customers.
 - Will deliver training and communications services directly to Digital customers at the customer's site.
 - Will broadcast third-party programming.
 - Will broadcast new-product announcements.
 - Will be implemented in Europe and GIA.
- MCG will implement a Corporate-wide image processing service (compatible with electronic publishing, color pre-press, computer images, and DVN) that captures, stores, processes, and outputs both color and black-and-white images in the selected communication medium, independent of the initial source.
- MCG communicators will compose on desktop publishing systems networked with electronic publishing and image processing, and, potentially, deliver on-line motivational (or sales) communications to Digital customers.

Pie-in-the-sky claims? Perhaps. But the fruition of only a fraction of these projections will force drastic changes in how MCG conducts business. The overall trend is clear. Technology is rapidly placing higher quality, more efficient tools for the origin, design, production, distribution, and reception of communications, directly into the hands of the communications originators – as well as into the hands of the targeted communications receivers. What impact will this have on MCG groups specializing in added-value design and production? An analogy to word processing may provide some clues.

Technological Change Creates Organizational Change

In the first stage of word processing, the systems were costly, complex, and cantankerous. Consequently, they were placed in the hands of only the specially trained few, whose services were then sold to the masses through the auspices of a word processing pool, or service bureau. In this environment, with its wide scope of incoming work, the WP operators learned to use the system to the fullest extent of its capabilities, and thereby added significant value.

In the second stage, technological advances had reduced the cost of and simplified the systems such that word processing migrated out to the next wave of users, those doing similar work, the secretaries. Here, because of the smaller scope of WP work, a specific secretary likely never had occasion to use the system to its fullest capabilities, and therefore, required less training and added less value.

In the third and final stage, the next generation of systems required virtually no training. In fact, they were so simple and inexpensive that they could even be made available to the next wave of users: the writers, editors, producers, supervisors, managers, etc., that comprise the originators of the traditional WP work. As might be expected, these users never apply the systems to anywhere near maximum capabilities, nor do they add significant value from a professional word processor's point of view.

As the workload shifted, the demand for a word processing pool lessened. For the operators, technological change has meant new opportunities. Many moved into the organizations that once provided their work, helping to develop and coordinate the work they once only typed. Many moved on to more sophisticated information processing machines using their skills to add value in other formats. What's left is a small crew of the highest skilled, working for those customers with the most important applications, those that require the highest quality, the highest skills, the maximum system capabilities, and the most added value.

Like an hourglass, the skilled word processors moved out from their role in the middle of a process. On one end, they moved to a former-customer organization; on the other end, to a publishing organization. In the middle, is what's left of the group in which all the expertise initially resided, containing only the most proficient, dedicated to the most important.

Word processing at Digital, passed through these three stages in about five years. The distribution of electronic publishing systems to a wide user base indicates that a similar process is under way. Since electronic publishing, currently in transition between stages one and two, is considerably more costly, complex, and specialized than word processing, it would probably take eight years to reach stage three - if the advancement rates were *identical*. They're not. Electronic publishing is moving to a wide group of users about one-and-a-half times faster than word processing did. The best projection for the stage three target date is on the order of three to six years.

The trends brought about by technological advances like this bear watching. The changes electronic publishing will bring to many of our production groups must be planned for carefully. The effects are potentially more widespread than might be imagined at first. Electronic publishing is not the only area of rapid change. As communications become integrated into products, and Digital networks with more and more customers, MCG clients such as Software Engineering, Marketing, and Sales will need the ability to pass effective messages directly to customers. Failure to recognize this need, could mean a flood of information with a drought of communication.

Information Flood/Communication Drought

An analysis of the history of transferring information (other than orally) suggests the existence of a fundamental law of communications. Namely, that the efficiency of producing, duplicating, and distributing information tends to be directly proportional to the *quantity* of information produced, and inversely proportional to the *quality* of its communication. Thus, increasing production and distribution efficiency tends not only to increase the total information output, but to decrease the quality of its content. The potential result: information flood, communication drought.

To illustrate the effects of the law at its extremes, compare the output of history's stone tablets with that of today's electronic mail. It's obvious that the low efficiency involved in casting messages in stone served to limit the quantities. It also served as the prime motivator for creating clear, concise, and correct messages - the first time.

But most importantly, it served as the incentive to answer the Golden Questions of Communications: What is my objective? Is there a better way to achieve it? Who is my audience? What is my message? Is it important enough to communicate? Should I do it at all? In essence, it forced the originators to think creatively, to make judicious decisions, and to focus on communications quality. In this regard, what can be said about the output of electronic mail?

Although this illustration compares a primitive medium with a modern one used for internal communications, the proliferation of Digital/Customer networks and electronic publishing will make the comparison equally valid for external communications.

True Communication

New technologies such as distributed word processing, electronic publishing, image processing, and electronic mail mean more and more information is being processed and passed on by untrained communicators. The demand for those with the skills to use these tools to create effective messages will be very great.

MCG as an organization must plan for the changing methods of communicating and the changing roles of the communicators.

Futurologists are calling anyone who works with information, knowledge workers. Information and knowledge are not synonymous; neither is information and communication. The real knowledge workers will be the communication specialists, those who can analyze the flood of information, synthesize it, translate it into communication and, in the process, acquire knowledge. This is a process that cannot be automated. It requires originality, depth, insight, and creative thinking. It requires the sort of communicators that now work so diligently in MCG.

As the flood of information continues unabated, the small pool of MCG communicators will become one of Digital's most valuable assets. For Digital to succeed in the marketplace, these communicators face a tremendous task over the next few years. Will they be up to it? It depends to a great extent on the effects of the internal forces currently exerting themselves within Digital's communications community.

Internal Forces

Communications within Digital is in a cycle of integration and standardization. The objective is to achieve the best balance among limiting the categories of communications, maintaining a consistent image, attaining economies of scale in production, and getting results in the marketplace. As part of this effort, MCG is participating more and more in the activities and programs of the Corporate communications community. As a project-oriented, zero-based, cost-center business, however, our involvement in these activities represents a significant shift in our methods of operation. Consequently, we will have to analyze our new responsibilities relative to our traditional business and design a new business model that strikes the best balance between the old and the new operational methods.

Integration of communications services within Digital is a parallel and ongoing effort. A current result of this effort is the integration of the two major organizations involved in communications service delivery, MCG and the MEM Marketing Communications group. At this point, it's difficult to predict how this ongoing effort will change the future complexion of the MCG organization.

Summary

The future never presents itself clearly; our view is always obscured. We are left trying to predict the future based on our experiences of the past. We can design a preferred future and invent ways to bring it about, but our inventions must be gracefully grafted on our existing organization, using its skills, labor, and resources. Our plan must be tempered with our collective experience, and spiced with a degree of risk taking. Our future cannot abruptly supercede our present and hope to stand alone. By and large, we can create our own future, but until we master perfect perception, we must prepare ourselves for a measure of the unknown.

Over the last few years, MCG has enjoyed tremendous success. The changes we've encountered were never sudden, never debilitating. They were evolutionary not revolutionary. We've always come through them successfully. The greatest danger has been not the changes that occurred, but rather what we thought about those changes. The changes of the future may come at a faster rate, simply because we're moving at a faster pace. We may not be able to control all the changes, but we can control our thinking. Perhaps the best thought, as we continue the business of MCG, is that there is no reason why MCG shouldn't continue to grow, develop, and succeed in the next five years even more than we did in the last five years.

MCG TOMORROW

A Vision for MCG

We envision the MCG of tomorrow as a masterpiece of communications services. We will be an organization that combines the qualities of a masterpiece into a perfect harmonious blend, coalescing our products, our processes, our systems, our services, and ourselves into a flawless, unique, unified entity, universally recognizable as a *masterpiece of communications services*.

Consistent with our middle name – Communications – we will portray our vision of MCG in terms of the qualities that we believe make up a masterpiece of communications:

- Unified
- Terse
- Coherent
- Clear
- Creative
- Profound
- Efficient
- Effective
- Meaningful
- Exciting
- Valuable
- Powerful
- Enjoyable
- Unique
- Inspiring

The Portrait of MCG Tomorrow

- We are *unified* in that all groups comprising MCG work together harmoniously such that the contribution of each is equally valued and, indeed, indispensable to the success of the whole.
- We are *terse* because we contain no unnecessary parts. We grow only in relation to the needs of Digital. We maintain an entrepreneurial attitude, develop processes that complement the work and meet the needs of the job, and avoid bureaucratic practices, unnecessary rules, forms, processes, and procedures.
- Our *coherence* shows in the logical relations of our functional groups, in our team spirit, in our “one-for-all, all-for-one” attitude, in our perseverance, and in our long-term, high-quality relationships with ourselves and our customers.

- Our *clarity* shows in our ability and willingness to communicate our strategies, objectives, and goals, which in turn, clearly demonstrates our openness, honesty, and integrity.
- Our *creativity* is reflected not only in the innovation of our communications products, but also in our environment, in how we maintain checks and balances through dynamic tension, manage ourselves and our business, design our future, question assumptions, master ideas, create metaphors, take risks, and always search for a better way to meet or exceed the needs of our customers and those of Digital.
- Our *profundity* shows in the depth of our talent, knowledge, capabilities, and experience, in the thoroughness of our organization, in the completeness of our service offerings, and in our deep commitment to the success of the individual, MCG, and Digital.
- Our *efficiency* is reflected in our responsiveness to customers, in our processes, in our information systems, and in our practical application of technology to reduce the production costs and improve the quality of our communications products.
- Our *effectiveness* registers on Digital's bottom line as a reduction in the cost of sales and an increase in profitability. It is the result of optimizing our processes and our products, of developing the right messages and delivering them in the right media, to the right audience, at the right time.
- Our *meaning* derives not only from our contribution to the success of Digital but also from our focus on people, on the value of their diversity, and on their environment – on helping them have meaningful, productive lives in a work environment that affords everyone the opportunity to succeed.
- Our *excitement* radiates from us as testimony of our dedication to our work and to the success of our customers, our passion to serve, our flair for creativity, our courage to explore the unknown and conquer new fields, and our desire to always do the right thing for Digital.

- Our *value* stems from our pivotal role in Digital's success in the marketplace, in our bias toward adding value to everything we do, in focusing our efforts on helping customers make judicious decisions, in our ability to get the job done, and in meeting our commitments to one another, to our clients, and to Digital.
- Our *power* derives from our knowledge of and expertise in all phases of communications; our knowledge of Digital and its products, the computer industry, the competition, the nation, and the world; our ability to transform information into knowledge; our practice of keeping every person in the organization fully informed and educated; our ability to empower others – colleagues, co-workers, clients – and motivate them through positive reinforcement to achievements beyond their greatest expectations; our practice of authorizing those people who do the work to make the decisions relative to that work; and our trust and confidence in people that impels us to bestow them with the responsibility, authority, and freedom-of-action that places them in charge of their own destinies and inspires them toward progressively loftier goals.
- Our *enjoyment* comes from the pleasure we find in performing our work, creating excellent products that bring results, serving our customers better than anyone else, interrelating with our colleagues, beating the competition, and using our power, not for personal gain, but for the greater good of Digital.
- We're *unique* – truly one of a kind – because no other communications services organization, anywhere, can measure up to our standards of excellence in performance, value, or results.
- We're *inspirational*, because we've transcended the ordinary, the commonplace. We've combined the qualities of a communications masterpiece into our organizational parts, our products, our processes, our systems, our services, and ourselves. We've achieved the delicate balance of these qualities, building upon the minute, the mundane, the magnificent, such that they magically meld in perfect harmony and magnify the sum of the parts into a greater, grander whole. We've created a Masterpiece of Communications Services.

The Plan for MCG Tomorrow

To reach our vision of MCG as a masterpiece of communications, specific directions, goals, and programs have been planned.

The following sections lay out our operating goals, strategic directions, business goals, and specific programs. Our operating goals are principles to live by on an everyday basis that will lead us to our vision. The strategic directions, goals, and programs are the steps leading to the vision. You will find that the operating goals and strategic directions have one or more corresponding business goals, which have corresponding programs.

MCG Operating Goals

Operating goals are similar to guiding principles. They provide direction during our day-to-day operations and help us make those decisions that may have long-term effects. Operating goals must focus on adding value to the Corporation in all their objectives, strategies, tactics, programs, products, processes, procedures, and investments.

MCG's operating goals are to:

- Commit to excellence in financial performance. Strive for zero variance, precise budgeting, accurate forecasting, and optimal financial control systems.
- Create and maintain a high-performance, people-oriented organization that attracts the best people, keeps everyone challenged, offers a high quality-of-life environment, values differences, and provides opportunities for growth.
- Promote and support creativity and innovation at all levels throughout the organization.

Operating Goals (continued)

- Develop and implement training plans for all MCG members.
- Assume a leadership role in all communications activities and programs in the Corporation that fall under the province of MCG expertise, such as A/V, video, DVN broadcasting, computer generated graphics, image processing and distribution, archiving, and electronic publishing.
- Improve integration and operational efficiency to reduce costs of MCG products and services.
- Focus on applying emerging communications technology to reduce costs and improve quality of MCG products and services.
- Develop Q/A, audience research, and measurement programs to improve the quality and effectiveness of MCG products and services.
- Maintain flexibility, achieve the appropriate generalist/specialist mix, and concentrate on results-oriented communications.
- Differentiate MCG from our competition by promoting MCG's communications expertise and bias for adding value; and by accentuating the benefits of an in-house agency relative to efficient transfer and retention of information, knowledge of DEC and its products, and the mutual client/MCG interest in DEC profitability.
- Ensure that MCG goals and strategies integrate with those of Educational Services.

MCG Strategic Directions

Strategic directions provide the overall general direction in working toward our mission.

Our strategic directions are to:

- Develop and proliferate the communications consultant role.
- Decentralize service-offering capabilities to improve the effectiveness of field communications.
- Maintain the centralization of production facilities that are capital-equipment intensive.
- Centralize production facilities in a new, dedicated, custom-designed, centrally-located Media Center.
- Achieve the optimum balance in MCG activities relating to projects and Corporate programs.
- Merge the two major Digital groups responsible for delivering communications service.
- Develop and implement an A/V Center for Expertise.
- Market MCG products and services externally.
- Institute a communications research program.
- Influence ESD&P Research and Development by forming a linkage for prototype development, applications modeling, and evaluation.
- Establish the Digital Video Network as a profit center in conjunction with Customer Training, for delivering training programs to customers via satellite.

MCG Business Goals

Business goals are action commitments directed toward achieving the mission. They are long-term, on the order of five years, and must be measurable. They answer the questions: what, where, and when.

MCG Business Goals have been developed for the following eleven areas of our business. The implementation schedule is shown in Figure 10.

1. Technology
2. People
3. Customer Satisfaction
4. Financial
5. Quality
6. Marketing
7. Product Development
8. Vendor Relations
9. Organizational/Functional
10. Work Process
11. DEC Benevolence Product Review

1. Technology

Within the next five years, MCG will establish itself as a leader in using technology for communications services, focusing on optimizing:

- Electronic Publishing
- Imaging
- Information Systems

2. People

a. Within the next three years, MCG will implement an environmental plan to support the creativity of its people, which will include the media center.

b. Within two years, each MCG employee will have a career plan, including:

- development
- training
- job plans
- succession plans

GOALS

FISCAL YEAR

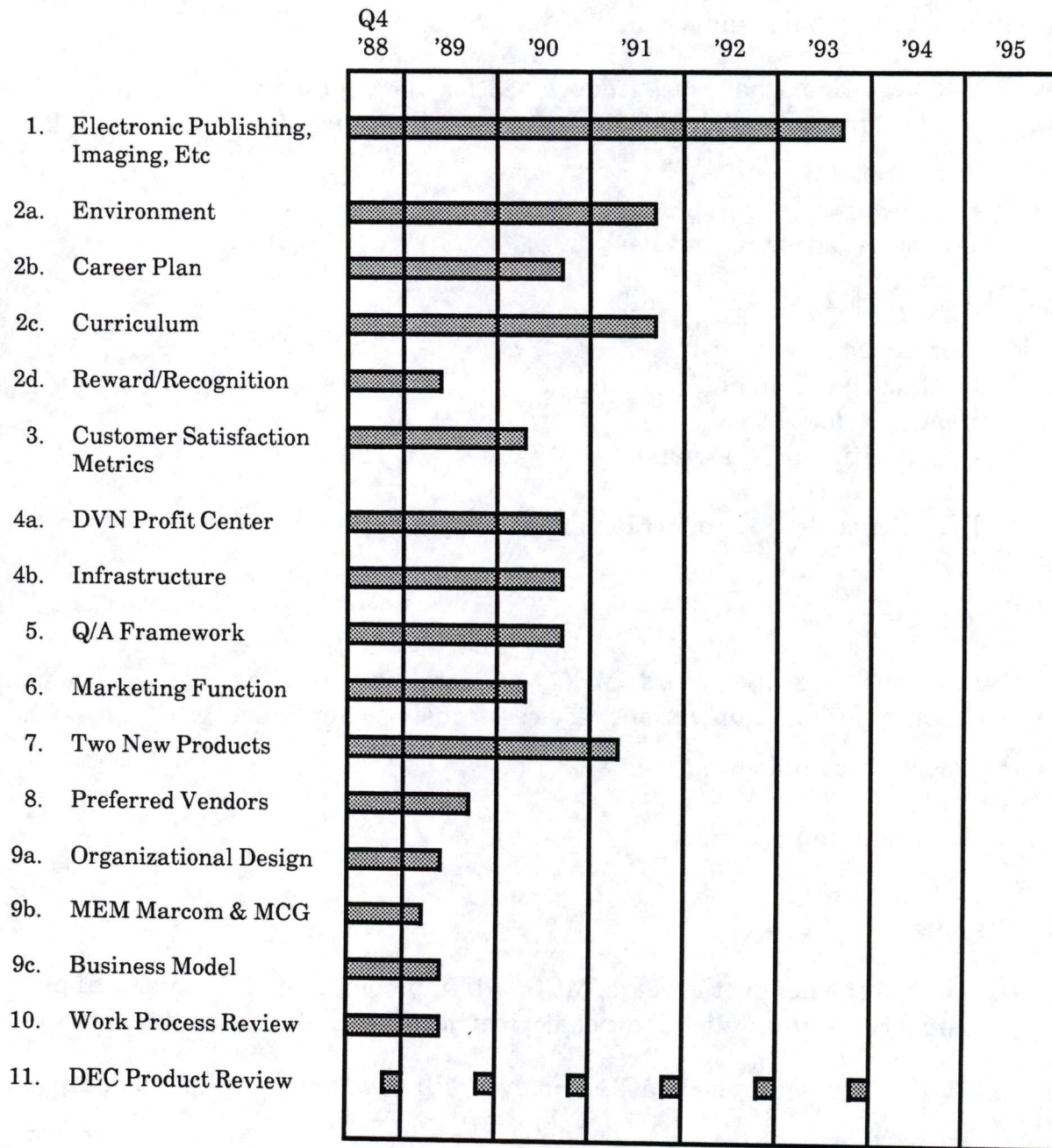


Figure 10. Goals Loading Chart

- c. Within the next three years, MCG will have a communications education curriculum focusing on key functional disciplines.
- d. By January 1989, MCG will establish the criteria for an employee reward and recognition program.

3. Customer Satisfaction

Within the next 18 months, MCG will develop customer satisfaction metrics and measure our performance against those metrics.

4. Financial

- a. Within the next two years, MCG along with Customer Training, will establish the Digital Video Network as a profit center.
- b. To help the Company optimize its communications investments, MCG will, within the next 24 months, revamp the financial infrastructure to enhance its ability to report on fiscal performance.

5. Quality

Within the next two years, MCG will develop a measurement system framework for quality and services.

6. Marketing

Within 18 months, MCG will implement a marketing function responsible for coordination of all marketing activities within MCG.

7. Product Development

Within 30 months MCG will define, develop, test and deliver to customers, our first two products for consumption external to MCG, one of which will be external to Digital.

8. Vendor Relations

Within the next 12 months, MCG will define and implement a process and policy for obtaining deliverables, service personnel resources, and full service media vendors, which will be reviewed and agreed to by MCG, purchasing, and commodity managers.

9. Organizational/Functional

- a. By January 1989, MCG will establish a review process to evolve the MCG organizational design, addressing changes in the environment, communications business, client businesses, and technology.
- b. By Q1 of 1989, MCG will develop a strategy for integrating the MEM Marketing Communications group with MCG.
- c. By January 1989, MCG will design and implement a business model that supports MCG's corporate programs.

10. Work Process

By January 1989, MCG will establish a process for the annual review of the MCG work flow process, using three criteria:

- Improved product
- Job satisfaction
- Ease of doing business

11. DEC Benevolence Product Review

Annually, MCG will identify three products, services, processes, and technologies already in use in MCG, and target them for application to the greater good of DEC, outside of MCG.

MCG PROGRAMS

Programs provide the specific, short-term steps toward meeting the goals.

The MCG Programs are shown in Table 1, along with the person(s) responsible for implementation. Each program supports multiple categories of goals as cross-referenced in Table 2.

Table 1. MCG Programs

Program Name	Person(s) Responsible
A/V Center for Expertise	Holland
A/V Task Group, Europe	Harbison
Computer Images Network	Harbison
Design Standards Forum	Holland
BOIS Relationship	Ball
Electronic Publishing	Ball
Corporate A/V Consulting	Maas
A/V Catalog	Morey
DVN Profit Center	Warshawsky
Policy & Procedures Documentation	Bourque
PMS II	Morey
Agency Relations	Management Team
Communications Research	Pierce, Crawford
Communications Education	Management Team
Communications Investment Strategy	Pitochelli, Moloney, Warshawsky
Corporate Testimonial	Thompson
Quality Assurance	Morey
Space	Morey
MIS	Morey
Distributed MCG	Management Team
Events	Moloney, Sweet
Service Integration	Elias, all
MCG as Vendor to Corporation	Management Team

Table 2. Program/Goal Interaction

GOAL CATEGORIES

PROGRAM NAME	People	Technology	Customer Satisfaction	Financial	Quality	Marketing	Product Development	Vendor Relations	Organizational/Funct.	Work Process	DEC Benevolence
A/V Center for Expertise		•	•		•	•				•	•
A/V Task Group, Europe		•	•		•					•	
Computer Images Network		•	•				•			•	•
Design Standards Forum		•	•		•					•	
BOIS Relationship		•	•			•		•			•
Electronic Publishing		•	•	•	•			•		•	
Corporate A/V Consulting		•	•		•						•
A/V Catalog		•	•	•	•	•					•
DVN Profit Center		•	•	•		•	•	•			
Policy & Procedures Documentation	•		•		•					•	
PMS II		•	•	•					•		
Agency Relations	•				•			•		•	
Communications Research	•	•	•				•				•
Communications Education	•					•					•
Communications Investment Strategy											
Corporate Testimonial					•	•				•	
Quality Assurance			•		•				•		
Space Program	•			•					•		
MIS Program	•	•	•	•	•				•	•	
Distributed MCG	•		•		•	•		•	•	•	
Events			•			•					
Service Integration				•					•		•
MCG as Vendor to Corporation			•			•				•	

Program Descriptions

A/V Center for Expertise

The A/V Center for Expertise provides a focal point for the communications needs of the Corporation in order to enhance the effectiveness of audio-visual communications and presentations. The center will support the general goals and responsibilities defined for a CFE, provide leadership and expertise in the A/V discipline, and offer consulting services for the delivery of all strategic messages to customers through the A/V medium.

A/V Task Group, Europe

The goal of this program is to expand the A/V Center for Expertise to Europe and strengthen the ties with the European counterparts of MCG.

Computer Images Network

The goal of this program is to build access links for presentation services to the field using EASYNET, key Genigraphics vendors, VAXmate-based presentation graphics software, and VTX for audio-visual catalog access. It will provide desktop development and production of presentation materials, including 35mm slides, laser prints, and access to the MCG A/V Catalog from selected satellite operations worldwide.

Design Standards Forum

This program develops a community that directs design toward a consistent image for Digital in support of the Corporate Identity Program. The community establishes a forum that communicates all approved programs and strategies of the communication function, such as periodical strategy, success story strategy, etc., and determines how design can support these programs.

BOIS Relationship

The synergistic relationship between BOIS, as the organization responsible for product requirements of electronic publishing tools, and MCG, as a major organization that uses electronic publishing tools, will continue to be developed. MCG will provide consultant services to BOIS, and will assist in the process of electronic publishing product definition, field test of new products, third-party product evaluation, training course content, and other appropriate services to support the successful marketing of Electronic Publishing products.

Electronic Publishing

MCG will continue to offer electronic publishing services to Digital clients. These services will include, but will not be restricted to, electronic publishing consulting and needs analyses, electronic publishing tool architecture and migration strategies, internationalization process consulting, tools for delivering printed pages or on-line information, and document library tools and techniques. As the technology develops, images will be smoothly integrated into publishing tools, and the color attribute will be added. Electronically published information will be delivered to internal clients or to end-user customers by use of the network, and may also be delivered using optical storage techniques.

Corporate A/V Consulting

This long-term, ongoing program involves providing consulting services to the Corporation in the audio-visual arena. This includes the design (operational/functional) of audio-visual presentation facilities located within new or existing buildings and the recommendation of equipment to individuals, groups, and purchasing departments. In addition, Corporate Standards for audio-visual equipment, design, and operation are being created, adopted, and implemented.

A/V Catalog

This program will provide the Corporation world-wide access to all appropriate audio tapes, films, slide shows, and video tapes produced by MCG. This media will be accessible via the Corporate Videotex (VTX) system, which "points" requesters to the A/V Catalog data base running on HYSTER. The VTX application provides on-line search and ordering capabilities. This same data base will be distributed, as a quarterly update, in hardcopy. Media Archives Duplication and Distribution is responsible for the loading and maintenance of the A/V Catalog. It works with other MCG groups to acquire masters, identify show contents, and produce the hardcopy catalog.

DVN as a Profit Center

This program will develop the Digital Video Network (DVN) into a Digital Customer Video Network (DCVN) that will broadcast video images of training and information via satellite links directly to customer and DEC sites. Although DCVN will produce revenues and profit margins, its most important contribution lies in its strategic value of meeting customers' needs for computing, information, and training services. The broadcasting of training alone, however, will not realize the necessary revenues and profits. Consequently, internal funding for informational broadcasts such as news, product announcements, and promotional programs, will be vital to the success of DCVN.

Policy and Procedures Documentation

The objectives of this program are to identify the policies and procedures applicable to the day-to-day business of MCG, publish them in manual form, and distribute the manuals to all MCG managers, secretaries, and individual contributors.

Project Management System II

MCG currently uses a management information system application that was created to support our business needs four years ago. Today, MCG's needs exceed the service of the Project Management System. The next generation of the BRIDE (Billing & Resource Inquiry & Decision Environment) application is a two-year project. It will provide a flexible platform that will support MCG's administrative needs through the 1990s, utilizing existing and emerging technologies.

Agency Relations

A key goal of MCG is to continue to add value to the Company's communications programs by providing quality services and creative solutions to communications problems. To do this, MCG creative resources need continuous development and stimulation in the communications arts and contact with peer professionals outside the Corporation. The goal of the Agency Relations program is to build creative partnerships with Digital's external communications experts - the agencies. Key to its success is finding opportunities to work together on Digital projects where we can combine strengths, learn from one another, and enhance the overall effectiveness of Digital's marketing and communications programs.

Communications Research

Research and development in communications will seek to position MCG as not just a deliverer of print pieces, speeches, and videos, but rather as a powerful pro-active marketing communications tool with a broad, world-environmental grasp of Digital's communications needs. Internally, the aim is to develop ways to best nurture the people we have, so that to work in MCG will be a creative and rewarding reality, both for Digital and the individual.

Communications Education

The objective of this program is to prepare current and newly hired MCG communicators in all phases of communications to ensure that Digital maintains its leadership position in the computer industry marketplace.

Communications Investment Strategy

This is an ongoing Corporate program that helps business units define and guide the effective and efficient use of various communications resources company-wide to achieve Digital's communications objectives. MCG's continued participation in this program includes contributions to the annual Planning Advice package to assist business unit managers in determining an effective communications mix for their marketing goals. MCG is also represented on the Center for Expertise (CFE) Committee, specifically chartered to integrate various communications disciplines and provide consultation and expertise to the Company, in both the A/V discipline as well as the overall communications services perspective.

Corporate Testimonial

The objectives of the Corporate Testimonial program are to:

- Provide a focal point for coordinating and tracking customer participation in marketing/advertising programs to facilitate Digital's integrated marketing strategy.
- Create an easy-to-use process to generate, evaluate, and use customer testimonials.
- Leverage each visit to customer sites for use in multiple communications vehicles.
- Support the sales representative in keeping good relations with accounts by avoiding multiple customer visits that may cause annoyance.
- Create a more efficient process for finding and using the best testimonial reference by avoiding the waste of time in seeking testimonials from accounts that are overused or not in good standing.
- Help communicators secure the most effective testimonials for planned projects.

Quality Assurance

This program will help MCG deliver consistently high-quality communications products that meet client expectations and satisfy end-user needs. It consists of two data-gathering components, one for internal clients to assess the quality of projects, and one to survey the audiences of projects. The results of these surveys will be used to reinforce the positive areas of MCG processes and improve areas of weakness. The program will define quality standards for major products, and implement quality control processes and tools for different product types.

Space Program

The goal of the space program is to improve the work environment of all MCG locations. The strategy is to maintain a strong presence in most current locations and actively seek additional space to support growth and customer needs. MCG will be involved in the Merrimack Plan 88 to renovate existing space, and will have a presence at the Corporate Education Center and the Customer Solution Center. Capital-intensive production resources, along with some design/development resources, will be consolidated in a dedicated Digital Media Center.

MIS Program

The MIS program will provide self-sufficiency in the area of Management Informations Systems. The first step is the development of the BRIDE application (see the PMS II program), which will help define the longer-term MIS strategy. The program includes upgrading hardware (both MCG's and contracted), and installing MCG-owned computer labs in the Media Center (see the Space program) to support MIS, development, and production hardware.

Distributed MCG

This program investigates the feasibility of distributing design/development resources to the areas in support of field sales activities.

Events Group

The goal of this program is to propose goals, strategies, programs, and an organizational framework for Digital's Events function. The proposed organizational framework centers on an Events Center for Expertise and an Events Services Group. MCG is currently working with the evolving Events Services Manager to integrate MCG's design and communications services with those of the new Events Group.

Service Integration

The objective of this program is to effect the smooth transition of the Marketing Communications Services organization of Manufacturing, Engineering, and Marketing (called MEM Marcom Services) with MCG.

MCG as Vendor to Corporation

MCG's unique business model requires that we deliver communications products and services to the Corporation at the same standards – of cost, time, and quality – as required of outside vendors. A significant feature of MCG's added value is the Corporate knowledge existing in our resource base – knowledge about Digital's message strategies and communications guidelines, as well as knowledge about how the company gets things done. Our "knowledge" component enables us to provide the actual service through our own resources and, when demand outstrips internal capacity, to provide the same service quality when managing external resources. The goal of this program is to continue to evolve this component of the MCG business model into all operating areas so that service, whether provided internally or externally, meets the same standards of quality.

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Strategic Plan
FY88-92

General
International
Area



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DIGITAL CONFIDENTIAL

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6 Appendix

Introduction

Success is not always as easy as reaching defined goals, supported by a solid foundation of strategies and teamwork to fulfill a mission of the area. External complications are constant reminders of the frail socio/political environment of our business world.

GIA Educational Services has a configuration of variables that are equaled in no other area of the Corporation. It encompasses five regions that serve numerous countries that differ from boundary to boundary. The common denominators are few; the differences are many. Few areas of the Corporation must deal with multilanguage issues that require endless hours of local translating and rewriting courses and marketing material to be successful. Inflation and rates of increase unheard of in other geographic locations make business decisions difficult. The value of the dollar is in constant flux; if one region has stability for a short period, another will experience daily changes. These issues, coupled with the political unrest that exists in many countries within our sphere of influence, tends to increase the difficulty of forecasting.

GIA offers business opportunities that are challenging, diversified and unique to our regions. While we support some of the most underdeveloped countries, in terms of high technology, we serve the major population of the world.

Never has the window of opportunity been open quite so wide for business endeavors. Our charge at this time is to find new and innovative methods to deliver an age-old commodity— education. It is incumbent upon us to focus on the future, while always remembering the significance that each of our countries places on its traditional ways of life. Our goal is to move these countries into the high-tech world of today at a pace and with a methodology that is acceptable to our customers and clients.

Certainly we are all aware of the ways of the American business world. We live in it daily and accept its culture. This does not make our model the only one, nor does it make it the best. We

have learned in GIA that we cannot push issues at foreign governments at breakneck speed; they only push back with their standards and slow the process down to adjust to their culture.

GIA Educational Services is working with the U.S. Government to find more successful approaches to teaching in other countries. We are looking at the Peoples Republic of China as our first such venture.

Our goals are to find ways to present material to the students successfully. This success would reduce cultural shock to the student and the instructor, resulting in improved learning, less frustration, greater levels of customer satisfaction, and more business opportunity.

Japan

Japan is the only region representative of one country and one language. Courses are developed by Corporate Educational Services and the course material is printed in English. Our region in Japan translates the material into Japanese and rewrites it to address existing cultural differences. Consideration must be given to the market they must service if they wish to remain as profitable as they have been in the past.

Japan has also developed its own product line. Through the efforts of the region, they have established themselves as a leader in the production of video teaching aids.

DEC's new manufacturing facility in Japan has already been a pleasant stimulant for Nihon DEC, and they have reaped some of the rewards attached to that venture. Certain Japanese industrial associations previously closed to Nihon DEC have now opened to them.

Japanese businesses are recovering from Yen shock. As a result of their experiences, they have adopted the approach of investing their way out of the setback.

We anticipate that the following scenario will shape the future of Nihon DEC. Computer demands will once again increase, and this will increase Educational Services' opportunities. Relationships between businesses and vendors previously monopolistic will become open; multi-vendor associations aimed at better solutions will come forth. Networking will move to the forefront of the Japanese business model. Finally, all computer customers of merit will be international in scope and operations, and will need the services of an international computer company.

Far East

The Far East Region's problems and opportunities stem from its diversity; it crosses cultural, economic and political barriers in most of its transactions. Its future certainly lies within the Peoples Republic of China, as this is the most populated country in the world with a great need to move itself into a more competitive position in the international marketplace.

Although this process will be slow, we must continue to pursue current opportunities and look toward the future when policies will open windows of economic gain for the region. Presently we face a somewhat closed market in China, but the recent party congress has pledged its support for a more open trade policy with other countries. The United States must look at China as a

potentially preferred trading partner and foster that image through constructive negotiations. We believe that China will eventually flourish. Until that happens, the Far East will suffer through difficult times; there will be up-swings and sharp down-swings as political issues are debated and policy formulated. This instability will continue to produce an unpredictable revenue stream.

The results of the Korean election represent opportunities to the Region. There will be financial benefits should the environment settle and the current leaders receive support from the general population. To reap these benefits, the Region must approach certain obstacles with forcefulness. Local language product availability for the nontechnical user must be aggressively pursued if the Far East Region wishes to be successful in Korea.

Unlike most countries, the Korean government does not depend on computers. They are in the incubation period, and their time to flourish is close at hand. When that time comes, the Far East Region should be ready to position itself at the top of the list of qualified vendors with easy-to-use products in the Korean language.

The future looks excellent for Taiwan in the international trade market, both as an exporter of its national products and as a strong, solvent financial center. This will translate into user dependence on imports to match and maintain its position in world markets. Computer training should rank high on its needs to accomplish its goals.

Taiwan's financial success certainly contributes heavily to the above-average growth of GNP for this Asian country.

Other areas of the Far East Region will continue to contribute, but not as significantly as Korea, Hong Kong, Singapore and the Peoples Republic of China. These developing countries are the Philippines, Indonesia, Malaysia, Sri Lanka, Burma and Thailand.

Canada

The Canadian Region recognizes that achieving continued growth in market share will necessitate an integrated and cooperative focus on total solutions and quality training.

Canada represents another stable region for GIA. It has business difficulties, but not of the magnitude of other regions. The Canadian Region experiences some language problems when required to present courses and other materials in French in certain provinces. Future business opportunities are excellent, training needs are bountiful, and the pursuit of those opportunities has been most successful.

The recently signed Free-Trade Pact between the United States and Canada presents uncertainties that cannot be evaluated at this time. Evaluation must await action by the U.S. Congress and the Canadian Parliament, when policy will be shaped that will determine the effects on business between the two nations.

Projections for Canadian computer industry growth between 1987 and 1992 range from a low of 4% in 1987 to a high of 10% before the end of 1992. These figures are not encouraging when compared to a growth of 13% in 1983, but are certainly healthier than the 1% of 1986.

Trends appear slightly better for computer industry training figures. Projections have training growth averaging 7-1/2% during the same timeframe. We must be ready to capitalize on this business with the right training products to meet the clients' needs.

Latin American/Caribbean

Problems for the Latin American/Caribbean Region are plentiful. Once again, the political and economic environment controls the future health of the region. LA/CR must deal with various languages; courses in Spanish, Portuguese and English are the major segment of their business. Monetary issues continue to plague the stability of the numbers generated from this region. Political issues in Brazil make the largest country of this region unpredictable. Mexico has serious inflation problems and monetary devaluation issues that create a difficult situation for the country to manage. This has a negative impact on the revenue producing ability of the region.

However, not all is negative for the LA/CR. There are areas of tremendous opportunity.

Brazil is the largest country in the LA/CR market and the fourth largest country in the GIA, with a growth rate of 20% per year. Brazil has the potential to lead the growth of this region during the next five years.

South Pacific

Opportunities are just below the surface in the South Pacific. Should these begin to float to the top and yield training opportunities, this region could exhibit sound financial growth in the future. The Region has responded to many RFPs, affording ample opportunity for reasonable growth.

Primary growth must be expected from Australia, where the climate for business development is favorable. Population growth will be slight through 2001, when Australia expects to see 20 million residents. New South Wales and Victoria will continue to dominate the markets into 1992.

Government officials have established directions to upgrade the skills of the Australian workforce and reshape the present educational systems. Relevance to the needs of industry will be stressed, forcing dramatic change in policy and direction. This should open new areas of opportunity for Educational Services.

New Zealand could offer some hope for growth, since the present government has a budget surplus for the first time in 35 years. This leadership could account for real GDP and encourage confidence in the economic climate, which in turn might spur investment in high-tech upgrades.

Papua New Guinea could represent limited growth in government and mining sectors.

Chapter 1

Canadian Region

Regional Management Summary

The Long Range Plan of the Canadian Educational Services Organization reflects a general optimism. The strong system performance over the next five years will result in an incremental penetration of the training component. Market share will improve in specific targeted industries through an integrated and cooperative focus on total solutions.

Canadian Economy

The Canadian economy has been consumer driven for the past five years. There are indications of investment-led growth over the next five years. Continued confidence in the economy combined with increased corporate profits are the major contributors to this forecasted shift. GDP growth of 2.8%, unemployment averaging around 8.5%, and inflation hovering around 5% are recently forecasted economic statistics through to 1991.

Two major recent occurrences will have an as yet undetermined effect on the Canadian economy. At this time, we have few details of the Free-Trade Pact. This agreement will extend over the next few years and its specifics will evolve through Congressional and Parliamentary processes. Additionally, the turbulent secondary market activity has great impact potential, but it is extremely difficult to assess consumer/corporate reaction until some stabilization occurs.

In general terms, the economy continues to remain strong and promises a positive outlook to the end of the decade.

Computer Industry Growth¹

After four years of decreased growth in the Canadian computer industry, from 17% in 1983 to 1% in 1986, the bottom appears to have been reached. A gradual increase in computer industry growth is forecasted throughout the remainder of this planning period, from 4% in 1987 to 10% in 1992.

The 4% growth for 1987 is lower than earlier projections, but reflects current industry knowledge. This includes the fact that IBM is looking at a zero growth year.

Computer Industry Training Growth

The past five years indicates a consistent upward growth trend from 4% to 6%. Projected 1988-1992 growth is averaged at 7.5%, which is indicative of a strengthening demand and realization of an effective use of technology. This is further reinforced by the expansion of training offerings utilizing technology-assisted tools in application-oriented environments (i.e., successful competition against other generic training requirements within the organization).

It is worth noting that the market is now recognizing the "cost/benefit" implications of training and is viewing training from the perspective of investment return as opposed to the discretionary perspective of past years.

The dynamics inherent within this market are such that future training offerings must address needs that differ significantly from needs of the past. The industry consensus is that market share is "up for grabs" to those organizations that are "up to speed".

Educational Services Regional Management Summary

Educational Services Certs Plan

1. To maintain a ramping penetration rate of Edu Certs to System Certs, from 2.66% in FY87 to 2.89% in FY90 and hold through FY92.
2. The increment market share at .4% each year of the planning period.
3. To contribute incremental profits each year of the planning period, from 40% in FY88 to 44% in FY92.

The Educational Services Certs plan, although it appears to be aggressive in absolute terms, essentially reflects a shrinking growth rate of 32% in FY88 to 22% in FY92. This is attributed to the "stabilizing" effect related to the much lower systems growth. Further, the 33% actual Certs growth of FY87 was a result of a changing "sales model" which focused on large project opportunities and the initiation of integrated solution selling.

This momentum is carried through FY88 and is assimilated into normal business trends in FY89-92. However, all performance indicators (e.g., productivity, market share, investment return) continue to reflect improvements during the planning cycle and in parallel with the stabilization.

¹ Please note that these inferences are made using the Canadian Subsidiary definition of "Market Sizing" as reflected in the Canadian Region Long Range Planning documented for FY88-92.

Pricing considerations, with the exception of minor portfolio adjustments and exchange implications, are generally expected to remain consistent with inflationary trends. Contribution growth will come from controlled portfolio planning and management (balancing low margin projects with high margin traditional business). Also, optimum resource management will support this effort.

Marketing Focus

Consistent with subsidiary realignment, Industry Marketing thrusts are aimed at the Public Sector (Government-Federal, Provincial, Municipal, Education, and Health), the Industrial Sector (Discrete Manufacturing, Process Manufacturing, Utilities, and Telecommunications), and the Services Sector (Banking, Insurance, Transportation, Media, and other services).

Major objectives will be to integrate Educational Services' marketing efforts and products into the total sales solution for the customer.

We will have a high-level of focus on market intelligence, portfolio management, and competitive analysis.

Success Formula

This plan is contingent on the implementation of strategies highlighted throughout this overview. The Educational Services Management Team has developed or is currently preparing short- and long-range action plans to support the following strategies.

1. Focus on Customer Satisfaction by delivery of quality services and products.
2. Effective Marketing Integration of Educational Services offering.
3. Controlled growth (projects, integrated solutions, traditional business) through enhanced portfolio management.
4. Continued focus on Resource Management and Investment Return.

In summary, the LRP reflects current trends and performance indicators related to Educational Services that are visible today. Risks appear to be related to external factors (Free Trade, Secondary Market Impacts).

Regional Environmental Assessment Summary

Key External Factors

Demographics

Although Canada's land mass is immense (4 million square miles), most of its 26 million people live in a 350 mile-wide corridor next to the United States. The country is divided into ten provinces and two northern territories. The central provinces of Ontario and Quebec comprise 36% and 26% of the population, respectively, and the western provinces of British Columbia and Alberta 10% each. The balance is shared by the prairies and the provinces of the eastern seaboard. Three-quarters of the population lives in an urban area, the largest cities being Toronto (3.4 million), Montreal (2.9 million) and Vancouver (1.4 million).

Forty percent of the population is of British origin and 27% of French origin. While Canada is officially bilingual, New Brunswick and Manitoba are the only provinces which have legislated equal status of both the English and French languages. French is the official language of Quebec.

Canadians are well-educated and enjoy a high standard of living; their demographics, lifestyles and work ethics are not much different from those of Americans. They tend to be more conservative and restrained, but they are more tolerant of government regulation of and involvement in their lives and business affairs. They are also more supportive of social programmes in the areas of health, education and welfare.

About a third of the labour force is unionized. Unions are most active in British Columbia and Newfoundland, and among postal, automotive and government workers. The recovery from the 1982 recession saw most new jobs created in manufacturing, construction, primary resources and services sectors, yielding a still-diminishing, seasonally-adjusted unemployment rate of 9.1% for July 1987.

Canada's economy is based on its natural resources and its main trading partner is the United States. For 1986, its balance of trade was \$17.5 billion in forest products, \$6.2 billion in energy production, \$3.7 billion in agricultural products and \$1.0 billion in autos and auto parts. Seventy-eight percent of Canada's \$89 billion imports were from the U.S. and 75% of her \$103 billion exports were to the U.S., hence the importance of current bilateral free-trade negotiations.

Politics

Prime Minister Brian Mulroney's Progressive Conservative party won a record 211 of the 282 seats in Canada's House of Commons in 1984, primarily because people wanted a change after 22 years under Liberal governments, 16 of them under Pierre Elliott Trudeau.

Mulroney's priorities have included reducing the size of the public service, privatization of Crown Corporations, encouraging more foreign investment in Canada, elimination of outdated government incentive programmes, deficit reduction, improved federal-provincial relations, free trade negotiations with the U.S., tax reform, reequipment of the Armed Forces, increased defense spending, and negotiation of special conditions that the province of Quebec considers essential prior to its signing of Canada's constitution.

Mulroney's priorities for the remaining two years of his mandate are likely to focus upon making a success of current free-trade negotiations, ratification of the constitutional accord, completing and implementing tax reform proposals, promoting the application of technology to industrial production processes, and raising his and his party's currently very low standing in public opinion polls.

Provincially, incumbent premier David Peterson and his Liberal party won a strong majority in Ontario's September provincial election, benefiting from a healthy post-recession economy and taking a cautious approach to free-trade. In Quebec, Robert Bourassa's Liberal party soundly defeated the Parti Quebecois government in November, 1986, and it was his initiative that led to the Meech Lake constitutional accord that will strengthen Quebec's bond with the rest of Canada.

Together, these two provinces account for about 61% of the country's Gross Domestic Product and accommodate the headquarters of 357 (71%) of the country's 500 largest firms.

Historically, federal-provincial relations have been most harmonious when the respective governments are formed by opposing parties (i.e., Progressive Conservatives nationally and Liberals provincially) as is the case in most provinces today.

Canada has few computer manufacturers, but is a leader in telecommunications technology and in software development. Only 29% of the revenues of the largest 200 companies operating in Canada in 1986 were garnered by Canadian-owned companies compared with 67% by subsidiaries of U.S.-owned multinationals.

In spite of a large trade deficit in high technology products, no significant policies have been introduced to limit such imports or to foster greater research and development, scientific or technological self-sufficiency.

Economics

Economic Indicators	Average Annual Growth/Rate (%)			
	1986	1987	1988	1989-91
Real GDP Growth	3.300	3.000	2.500	2.300
Inflation Rate (CPI)	4.200	4.300	4.600	3.800
Unemployment Rate	9.600	9.200	8.900	8.500
Corp. Profits Growth	-4.800	24.300	5.400	3.100
Business Inv. M & E, Growth	11.500	10.800	5.700	0.600
Productivity Growth	-.100	1.100	0.200	0.800
Prime Lending Rate	10.500	9.600	10.300	10.600
Exchange Rate (\$C/US)	.720	.748	.745	.737
Federal Deficit (\$C Bil.)	-24.800	-22.800	-22.700	-28.500
				(1991)
GDP @ Mkt. (Nominal \$C Bil.)	509.900	546.300	580.200	684.400
GDP @ Mkt. (Nominal \$US Bil.)	367.100	408.600	432.300	502.500

Source: Conference Board of Canada, 7 Aug 87 Forecast

Real Gross Domestic Product

Industry	Average Annual Growth Rates (%)			
	Share % 1986	1987	1988	1989-91
Primary Resources	9.4	-0.7	3.0	1.4
Manufacturing	18.5	2.8	3.2	1.8
Construction	6.9	2.8	0.7	-1.1
Transp./Communications	7.8	3.8	3.2	1.2
Utilities	3.2	2.8	2.9	1.7
Wholesale/Retail Trade	11.4	4.2	1.9	1.0
Finance, Insce., R.E.	15.0	3.6	2.4	2.1
Services. Health, Edu.	21.3	2.6	1.9	-0.5
Government/Defence	6.5	-0.7	1.2	2.6
Total	100.0	2.6	2.3	1.0

Sources: 1986-88: Conf. Board of Canada, Prov. Eco. Outlook, 14 Apr 87
1989-91: Conf. Board of Canada, Mid-Term Outlook, 19 Jan 87

Competition

In Canada, the two primary areas of competition are third-party trainers and Canadian software-development shops and courseware (local content).

The companies competing with Digital in Canada include:

- Microtel, B.C., Courseware
- IPS, B.C., ALL-IN-1/Office
- Honeywell, Ottawa, CBIs
- Deltak, Ottawa, A/V Market
- Human Computing Resources, Ontario, Unix, PDP, VMS
- High Tech, Marlboro, Mass., Hardware Training
- Prior Data Sciences, Ottawa, MicroVAX, ADA

The competitive implications at work in Canada now are:

- Decreasing in local resources, UNISYS
- Down playing need, DG
- Parent Advertising
- Projects, hidden training costs
- Quality/Price, recognition of training investment return
- Product/Service's features becoming more significant in differentiation of competitive offerings

Market Segmentation

	FCST FY86	< --- FY87	--- FY88	--- FY89	Target --- FY90	--- FY91	--- FY92	>
Total Market	232.0	246.0	263.0	282.0	303.0	327.0	355.0	
Growth %	5.1%	6.0%	6.9%	7.2%	7.4%	7.9%	8.6%	
NOR	5.2	6.2	8.2	10.1	11.9	14.3	17.2	
Growth %	13.0%	19.2%	32.3%	23.2%	17.8%	20.2%	20.3%	
Market Share	2.2%	2.5%	3.1%	3.6%	3.9%	4.4%	4.8%	
Growth¹								
Ind. Rel %	2.1%	2.2%	2.5%	3.1%	3.6%	3.9%	4.4%	
\$	4.8	5.5	6.6	8.8	10.9	12.8	15.5	
Inc. Pene %	0.1%	0.3%	0.6%	0.5%	0.3%	0.4%	0.5%	
\$	0.4	0.7	1.6	1.3	1.0	1.5	1.7	

¹ The growth section identifies the amounts of Educational Services' NOR that could be generated from pure industry "pull", and the amounts required through incremental penetration of the market to achieve the targeted market share in the plan.

FY86	Service Ind. Size (M\$)	Trng. Size (M\$)	Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	150	26.4	623.5	2.4%
•Process	100	17.6	329.4	1.9%
Educational	121	21.3	468.8	2.2%
Medical	50	8.8	181.7	2.1%
Government	154	27.1	1146.5	4.2%
Finance	197	34.7	65.0	0.2%
Services	342	60.2	1324.9	2.2%
Communication	19	3.3	358.0	10.7%
Other	185	32.6	716.7	2.2%
Total	1318	232.0	5214.5	2.2%

FY87	Service Ind. Size (M\$)	Trng. Size (M\$)	Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	161	27.7	849.3	3.1%
•Process	105	18.1	434.3	2.4%
Educational	128	22.1	398.7	1.8%
Medical	56	9.6	214.6	2.2%
Government	162	27.9	1432.6	5.1%
Finance	211	36.3	183.0	0.5%
Services	377	64.9	1267.4	2.0%
Communications	20	3.4	535.5	15.5%
Other	208	35.8	908.3	2.5%
Total	1428	246.0	6223.7	2.5%

FY88	Service Ind. Size (M\$)	Trng. Size (M\$)	Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	173	29.5	950.0	3.2%
•Process	111	18.9	550.0	2.9%
Educational	135	23.0	450.0	2.0%
Medical	61	10.4	250.0	2.4%
Government	170	29.0	2100.0	7.3%
Finance	226	38.5	500.0	1.3%
Services	415	70.7	1500.0	2.1%
Communications	21	3.6	800.0	22.4%
Other	232	39.5	1100.0	2.8%
Total	1544	263.0	8200.0	3.1%

FY89	Service Ind. Size (M\$)	Trng. Size (M\$)	Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	186	31.4	1100.0	3.5%
•Process	118	19.9	600.0	3.0%
Educational	143	24.1	600.0	2.5%
Medical	66	11.1	350.0	3.1%
Government	179	30.2	2600.0	8.6%
Finance	241	40.7	700.0	1.7%
Services	458	77.3	1700.0	2.2%
Communications	23	3.9	1100.0	28.3%
Other	256	43.2	1350.0	3.1%
Total	1670	282.0	10100.0	3.6%

FY90	Service Ind. Size (M\$)	Trng. Size (M\$)	Target Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	200	33.5	1250.0	3.7%
•Process	124	20.8	800.0	3.8%
Educational	149	25.0	700.0	2.8%
Medical	72	12.1	450.0	3.7%
Government	187	31.3	3000.0	9.6%
Finance	262	43.9	1000.0	2.3%
Services	502	84.1	1900.0	2.3%
Communications	24	4.0	1000.0	24.9%
Other	288	48.3	1800.0	3.7%
Total	1808	303.0	11900.0	3.9%

FY91	Service Ind. Size (M\$)	Trng. Size (M\$)	Target Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	217	36.3	1450.0	4.0%
•Process	132	22.1	950.0	4.3%
Educational	157	26.3	850.0	3.2%
Medical	78	13.1	550.0	4.2%
Government	198	33.1	3700.0	11.2%
Finance	287	48.0	1300.0	2.7%
Services	562	94.1	2150.0	2.3%
Communications	26	4.4	1200.0	27.6%
Other	297	49.7	2150.0	4.3%
Total	1954	327.0	14300.0	4.4%

FY92	Service Ind. Size (M\$)	Trng. Size (M\$)	Target Digital NOR (K\$)	Market Share
Manufacturing				
•Discrete	234	39.4	1800.0	4.6%
•Process	141	23.7	1150.0	4.8%
Educational	165	27.8	950.0	3.4%
Medical	85	14.3	600.0	4.2%
Government	208	35.0	4400.0	12.6%
Finance	312	52.5	1650.0	3.1%
Services	597	100.4	2600.0	2.6%
Communications	28	4.7	1450.0	30.8%
Other	340	57.2	2600.0	4.5%
Total	2110	355.0	17200.0	4.8%

Educational Services Target Industries

Discrete Manufacturing

Major Attributes

Market		FY88	FY92
Computer Market Size	(\$M)	752	980
Computer Service Market Size	(\$M)	173	234
Training Component Size	(\$M)	29.5	39.4
Digital Training NOR	(\$K)	950	1800
Market Share		3.2%	4.6%

Current

The U.S. Free-Trade Negotiations and reciprocal trade agreements in automotive/defence sectors are forcing the Canadian manufacturing companies to improve all operational areas in order to be more competitive. Similarly, the electronics sector has tremendous pressures from Japanese, European, and U.S. suppliers.

Digital Systems' Opportunities

- Low cost workstations/worksystems
- Networked computer systems
- Large installed PDP-11 base
- Large "total solution" project opportunities

Training Opportunities

- CIM Curriculum
- Networks in manufacturing
- Customized training development - ETG

Target Accounts for Discrete Manufacturing

Active Accounts

Boeing Company
 Bombardier
 Budd Canada
 Canadair
 Caterpillar
 Ford
 General Motors/Eds
 Hawker Siddeley
 Hayes Dana
 Pratt & Whitney
 Schlumberger
 Spar Aerospace
 Westinghouse
 Litton Systems
 Canadian Marconi
 Hammond Manufacturing
 Motorola
 CGE
 Phillips Canada
 Husky Injection
 Husky Manufacturing

Proposed Accounts

American Motors
 AG Simpson
 Champion Road Machinery
 Chrysler
 Dehavilland
 Eaton Yale
 Goodyear Tire
 Lockheed Corp
 Mcdonnell Douglas
 Rockwell
 Textron
 United Technologies
 Volkswagen
 Volvo Canada
 General Electric
 Electrohome
 GTE Sylvania
 Siemens AG
 Black & Decker
 RCA
 Federal Pioneer
 ASEA
 Texas Instruments
 Eastman Kodak
 Ingersoll Rand
 GSW
 Inglis
 Otis Elevator
 Outboard Marine

Process Manufacturing

Major Attributes

Market		FY88	FY92
Computer Market Size	(\$M)	469	590
Computer Service Market Size	(\$M)	111	141
Training Component Size	(\$M)	18.9	23.7
Digital Training NOR	(\$K)	550	1150
Market Share		2.9%	4.8%

Current

This industry accounts for approximately 10% of Digital Canada's revenue. IBM also has captured a significantly larger proportion of this market. Major segments are Oil and Gas, Chemical, Pulp and Paper, and Food and Beverage. This industry is focusing on better customer service, increased productivity, and improved resource utilization. Specifically, the industry intends to gain a competitive edge through enhanced logistics and distribution.

Digital Systems' Opportunities

- Resource/Energy/QA Management Applications
- Office Solutions
- AI Tools
- Communications Products

Training Opportunities

- Productivity Tools Curriculum (VAXset, SPM courses)
- Networking/VMS High Level
- ALL-IN-1/PCSA Office Curriculum
- Customized training development - ETG

Target Accounts for Process Manufacturing

Active Accounts

BP Canada
Petro Canada
Shell
Imperial Oil
Syncrude
Suncor
Crown Forest
Labatts
Nestles
Catelli
Kelloggs
Dupont
Dow
Cil
Kodak
Liquid Carbonic
Texaco
Amoco
Mobil
Mohawk
Great Lake Forest
MacMillan Bloedel
Union Carbide

Proposed Accounts

Abitibi Price
Boise Cascade
Scott Paper
WM Nielson
Nabisco
GD Searle
Ciba Geigy
Unilever
Chevron
Canada Packers
Reed
Fraser
General Mills
Coca Cola
Pepsi Cola
Campbell Soup
Christie Brown
McCain
HJ Heinz
Monsanto

Telecommunications

Major Attributes

Market		FY88	FY92
Computer Market Size	(\$M)	88	112
Computer Service Market Size	(\$M)	21	28
Training Component Size	(\$M)	3.6	4.7
Digital Training NOR	(\$K)	800	1450
Market Share		22.4%	30.8%

Current

The telecommunications industry is experiencing a period of rapid change due to technological advancement and high demand for distributive information requirements. Increased growth in indirect manpower and support systems is resultant of this transition. As the only viable alternative to IBM, Digital and its product sets lends itself to the industry's distributed structure.

Digital Systems' Opportunities

- Network Management
- Intelligent Networks
- High-end Transaction Processing
- Operations/Administrative Support Systems

Training Opportunities

- High volume/low cost Application Training (SPI)
- Networking/OSI/PCSA Training
- ALL-IN-1/ Office Curriculum
- Customized training development - ETG

Target Accounts for Telecommunications

Active Accounts	Proposed Accounts
Northern Telecom	Saskatchewan Telephones
Bell Canada	
Alberta Government Telephones	
Manitoba Telephones	
BC Telephones	
Mitel	

Government

Major Attributes

Market		FY88	FY92
Computer Market Size	(\$M)	675	1225
Computer Service Market Size	(\$M)	170	208
Training Component Size	(\$M)	29	35
Digital Training NOR	(\$K)	2100	4400
Market Share		7.3%	12.6%

Current

The Federal and Provincial Governments set standards and trends to industry and their own internal agencies. Recently, all levels of government have been actively downsizing, thus placing more dependence on automation. Regionalization/decentralization has stimulated networking requirements (OSI), bilingual necessity, and an increase of a UNIX-based environment (Federal).

Digital Systems' Opportunities

- Networks/OSI
- UNIX Applications
- Focus on large projects
- Administrative Support Systems

Training Opportunities

- High volume/low cost Application Training (SPI)
- Networking/OSI/PCSA Training
- ALL-IN-1/ Office Curriculum
- Customized training development - ETG
- UNIX-based training

Target Accounts for Government

Active Accounts

Proposed Accounts

Federal

DND
 CBC
 DOE
 Transport
 Corrections
 DEMR
 H of C
 CFS
 ECC
 Labour
 MRC
 F & O
 AG Canada
 AECL
 DRIE
 STATS

DSS
 CPC
 RCMP
 Revenue
 CSIS
 DINA
 DPW
 Justice
 Senate
 CMHC
 Elections
 Finance/TB
 NRC

Provincial

Province of British Columbia
 Province of Alberta
 Province of Saskatchewan
 Province of Manitoba
 Ontario Ministry of Health
 Ontario MGS

All Health Ministries

Finance

Major Attributes

Market		FY88	FY92
Computer Market Size	(\$M)	966	1225
Computer Service Market Size	(\$M)	226	312
Training Component Size	(\$M)	39	53
Digital Training NOR	(\$K)	500	1650
Market Share		1.3%	3.1%

Current

On June 30, 1987, deregulation of the industry in Canada occurred causing a flurry of activity related to repositioning in an effort to increase market share. In order to protect margins, increased fees for services were instituted to replace interest spreads as a source of income. Product cross-selling and merger/acquisition strategies have become common-place in the struggle for financial power.

Digital Systems' Opportunities

- Back Office Support Systems
- Marketing Support Systems for Front Office
- Focus on large projects
- Network Strategy (IBM interconnect)

Training Opportunities

- High volume/low cost Application Training (SPI)
- Networking//PCSA Training
- ALL-IN-1/ Office Curriculum
- Customized training development - ETG

Target Accounts for Finance

Active Accounts

Banks

Bank Of Montreal
National Bank
Canada Trust
Royal Trust
National VG
Loyd's Bank
Citibank
Financial Trust
Counsel Trust
BT Bank
Investor's Group
Quebec Trust
Avco Financial
American Express
Manhattan

Proposed Accounts

Royal Bank
CIBC
Bank of Nova Scotia
Toronto Dominion Bank
Caisse Populaire
Montreal Trust
Laurentian Group
First City
Central Capital
Montreal C & D

(continued)

Active Accounts**Proposed Accounts**

Insurance

Allstate
London Life
Real Time Datapro
Manulife
Crown Life
Cooperators
Zurich
Alexander & Alexander
Reed Stenhouse

Great West Life
Metropolitan Life
Mutual Life

Brokers

McLeod Young Weir
Burns Fry
Montreal Stock Exchange
Wood Gundy

Richardson Greenshield
Toronto Stock Exchange
Merill Lynch

Regional Objectives/Strategies**Customer Satisfaction Objectives**

Educational Services will earn the reputation of being the standard of excellence as a quality, professional, predictable and reliable supplier of educational products and services.

Strategies

We will enhance our image both internally and externally in the areas of quality and professionalism by providing high-quality, professional products and services.

By providing services when and where required, we will deliver a comprehensive educational experience to our customers. We will also set our customers' expectations accurately and meet our commitments consistently.

We will participate in Major Account Management Teams, for identified strategic accounts, in key focus industries. At all times, Educational Services will provide to the customer clear and accurate communication related to educational products and service deliverables.

Financial Performance Objectives

Our financial performance will consistently meet or exceed Subsidiary and GIA Educational Services' objectives.

Strategies

We will manage required resources to achieve planned productivity improvements, and ensure that appropriate ROI analysis and measurements of programs and investments are yielding results consistent with the original business plans.

By maintaining the required level of predictability and reliability in the budget and forecast process, we will demonstrate our understanding of the Canadian training environment.

At all times, we will ensure that the Educational Services' business performs in compliance with the policies and procedures of the Corporation.

Human Resources Objectives

We will create a healthy and positive working environment, one which will help us acquire, develop, and retain a capable, loyal workforce. We will significantly strengthen our total management organization by placing the highest priority on development and recruitment.

Strategies

We will build a strong management team with both unified and congruent goals which is success-oriented and committed to *all* the quarterly goals of the organization.

By clearly defining expectations and performance criteria, implementing programs of training and professional development for all employees, and establishing career paths and growth within Educational Services, we will achieve an attrition level of no more than 15%.

We will motivate outstanding performance by rewarding excellence at all participation levels and by keeping all employees informed of total business activities.

Growth Objectives

We will manage the Educational Services' portfolio of products and services to maximize profitable growth within the geography, introducing new products and services in response to Corporate development and market needs and increasing marketshare with aggressive growth targets in NOR.

Strategies

By increasing marketshare with aggressive growth targets in NOR without sacrificing margin, we will continue to build the business on a Project and Annuity basis while steadily improving marketshare on traditional training offerings.

We will ensure that profit margins are optimized by managing product mix and yields, and deploy resources consistent with product marketing strategies to support revenue achievement.

By establishing a viable and effective product differentiation strategy, we will maintain a high level of visibility on competitive pressures.

We will become the sole provider of all internal educational service needs.

Integration Objectives

We will integrate our efforts and resources with subsidiary functional groups to effectively leverage business, synchronizing with area objectives to maximize our image and standing as a good corporate citizen.

Strategies

By utilizing all components of our portfolio, including product training application training, project management, training consulting, course development, etc., we will move our organization from providing primarily product training to providing educational solutions to our customers' business problems.

By providing improved educational support to the sales function, and participating in a unified marketing organization to provide direction and support to the sales effort, we will enhance the selling of total solutions.

We will also develop bundling strategies to support simplification and effectiveness in providing total solutions.

Regional Goal Summary

	Act. FY86	Act. FY87	Fcst. FY88	< — — — FY89	Nov. Targets — — — FY90	— — — FY91	> FY92
Business (US \$)							
• NOR (\$)	5.2	6.2	8.2	10.1	11.9	14.4	17.5
• SCM (\$)	1.7	2.4	3.3	4.0	5.0	6.2	7.7
• SCM (%)	32.7%	38.7%	40.2%	39.6%	42.0%	43.0%	44.0%
• Cust. Sat. Rating	N/A	7.14	7.50	7.70	7.70	7.70	7.70
• QA Class	.82	.82	.83	.87	.87	.87	.87
• Computer Index	1.88	1.86	1.89	1.93	2.00	2.10	2.18
• CAGR for Trng. Ind.	5.1	6.0	6.9	7.2	7.4	7.9	8.6
• CAGR for Digital	13.0	19.2	32.3	23.2	17.8	21.0	22.0
• Digital Share (%)	2.2	2.5	3.1	3.5	3.9	4.4	4.8
• IBM Share (%)	N/A						
• Digital Ranking	N/A						

(continued)

	Act. FY86	Act. FY87	Fcst. FY88	< -- -- FY89	Nov. -- Targets -- FY90	-- -- FY91	-- --> FY92
Employees							
• Customer-Dir.	29.	35.	41.	47.	52.	58.	66.
-Ind.	20.	22.	24.	26.	29.	31.	33.
• Internal-Dir.	7.	10.	11.	12.	12.	13.	13.
-Ind.	4.	8.	10.	10.	10.	10.	10.
• Total Canada	60	75	86	95	103	112	122
• Direct/Ind. Ratio	1.31	1.50	1.53	1.57	1.58	1.60	1.65
Productivity							
• NOR/Empl. (\$000)	86.7	82.7	95.3	106.3	115.5	127.7	141.0
• SCM/Empl.	28.3	32.0	38.4	42.1	48.5	55.4	63.1
U.S. Dollars							
• MLP (\$ Millions)	249	307	377	434	516	625	762
Subsidiary							
• NOR Total (\$)	322	364	440	506	595	707	846
- Systems	218	244	286	329	391	473	577
- Services	99	114	146	167	192	220	252
- Education	5	6	8	10	12	14	17
• NOR Growth (%)	14.6	12.8	21.1	14.9	17.6	18.9	19.5
Subsidiary							
- Systems	16.6	11.9	17.2	15.0	18.8	21.0	22.0
- Services	10.9	15.2	28.1	14.4	15.0	14.6	14.5
- Education	13.0	19.2	32.3	23.2	17.8	21.0	22.0
• SCM Total (%)	42.0	39.7	42.8	43.0	43.2	43.4	43.6
Subsidiary							
- Systems	42.7	40.0	44.8	44.0	44.0	44.0	44.0
- Services	40.8	39.0	39.0	39.3	39.6	39.8	39.8
- Education	34.8	38.7	40.2	39.6	42.0	43.4	44.8
Local Currency							
Educational							
• LC Exch. Rate	.7225	.7126	.7376	.7475	.7475	.7475	.7475
• NOR (LC)	7.2	8.7	11.1	13.5	15.9	19.1	23.0
• NOR Growth (%)	20.9	27.8	19.1	21.6	20.2	20.2	20.3

(continued)

	Act. FY86	Act. FY87	Fcst. FY88	Nov. Targets			
				< -- -- FY89	-- -- FY90	-- -- FY91	-- --> FY92
• Spending							
- (LC)	4.8	5.3	6.6	7.9	9.2	10.8	12.7
- (% Growth)	N/A	10.1	24.6	18.8	16.9	17.4	17.3
Sales Metrics (U.S.\$000)							
• CERTS							
- Systems	217	256	339	390	464	561	685
- FS	79	104	121	140	161	186	215
- SWS	9	11	12	14	17	21	25
- Education	5	7	9	11	13	16	19
- Total	310	378	481	555	655	784	944
• Penetration							
- Edu/Systems	2.35	2.66	2.65	2.85	2.89	2.89	2.89
• Yield							
- Systems ¹	893	727	764	800	840	882	926
- FS	N/A	2608	2726	2857	2993	3153	3308
- SWS	N/A	2224	1500	1538	1650	1731	1814
- Education	1008	874	900	941	993	1039	1079
• COB (% of Certs)							
- Systems	11.1	13.5	13.5	13.6	13.6	13.6	13.6
- FS	N/A	2.3	2.5	2.5	2.5	2.5	2.5
- SWS	N/A	3.0	5.3	5.5	5.4	5.4	5.4
- Education	3.5	6.0	7.2	7.2	7.2	7.2	7.2

¹ Includes Presales Headcount

Chapter 2 Far East Region

Regional Management Summary

Over the next decade the economies of the countries in the Far East will grow two- to three-times faster than the rest of the world. Labor costs and a Confucian work ethic have fueled the spectacular growth of these economies in the past decade; additional factors will enable the continuation of this growth into the next decade. Sound and sizable government investments in education are generating more highly-skilled labor, making the region increasingly attractive for high-tech industries. Foreign companies, particularly and increasingly Japanese, are investing heavily in the region, to both exploit favorable labor conditions here and position themselves for the growing markets in the region.

On the risk side, both the political and economic systems of almost every Far Eastern country remain fragile. The political leadership, which has been stable over the past years, will almost certainly undergo changes in almost every country in the next five years (witness PRC, Taiwan, Korea, Singapore, etc.). Changes at the top may cause some turbulence and drift in the political and economic management of these countries. Offsetting this risk, however, is the drive towards more open and liberal political and economic systems. Given the success of NICs (Newly Industrialized Countries) such as Korea, Taiwan, Singapore, Hong Kong, and earlier Japan, there is tremendous confidence, determination and peer pressure to drive towards further economic development and prosperity, and towards more mature and open political systems.

Excellent prospects for economic growth, coupled with the relatively low Computer Index (which measures the size of the DP market to the GNP in a country) in most countries, will continue to make the region an exciting growth area, in geographical terms, for the computer industry. We estimate that the market in the region will grow at a compound rate of 18% annually over the next five years. At the end of FY92, the total DP market in the Far East will be \$5B.

Briefly, our plan for the fiscal years 1988-1992 is aggressive in terms of both market share and profit goals. By the end of FY92 we plan to be a \$500M-plus company in the Far East with a 11% overall market share, at contribution margins 1-2 percentage points above levels dictated by Corporate profit standards. By the end of FY92, we will have 3,100 employees in our sales/service operations.

Educational Services Regional Management Summary

Educational Services will continue to play a key role in the growth and development of the Far East Region in the areas of employee development and customer services.

The range of training services will expand to support the organizational growth forecasted. Training resources such as classrooms, ILCs, equipment and instructors will be decentralized to the country level when respective country functions attain a size large enough to justify and support a local training service. The coordination of all decentralized internal training will continue to be guided by the region. There will be increased emphasis on self-sufficiency and accountability.

For customer training, Educational Services will expand and decentralize services in order to support new customers, installed-base activity, and opportunities beyond the traditional base of business. Just as for internal training, investment will depend on the ability to support and build training services.

The viability and profitability of the Educational Services operation in Taiwan and Singapore require closer investigation. There are good reasons from a cultural, geographic and language point of view to maintain the current training centers. Growth opportunity and management support appear to be high. Revenue, expense and margin metrics, however, are below expectations. Both operations have probably been over-built. Decisions will be made during FY88 about the scope of operations in both Taiwan and Singapore. These countries must develop realistic plans that fall in line with Educational Services standards. More management focus is needed and will be provided.

Once a Korean subsidiary is established, Educational Services will plan and implement an appropriate customer and internal training operation. Local language resources will be required. The target is to open a customer training center in Korea in FY90.

In FY89, Educational Services will place a marketing manager in Korea to support sales and training opportunities. Our current distributor, Doosan, uses Digital-developed course materials, runs a large training center, pays no license fees, and consistently refuses to change these practices despite clear evidence that it is in violation of the distributor agreement. Digital's relationship with Doosan is currently being negotiated.

In the PRC, Educational Services has been able to provide customer training services to new customers only. Problems with local currency, travel, and import/export restrictions have made it difficult to service the installed base. In FY90, a customer training center will be established in Beijing, capable of handling 60 to 70% of all customer training requirements. The key to success in this effort will be the ability to use local currency.

In the developing countries of Indonesia, Malaysia, the Philippines, and Thailand, Educational Services will develop training capacity as business grows to levels sufficient to justify operations. Typically, an ILC will be followed by on-sites, instructor staffing, and the creation of classrooms. The use of partnerships, such as those in PRC and Singapore, offers significant leverage and cost advantages.

With the exception of the Jockey Club, Educational Services does very little business in Hong Kong. The facility at Fleet House is extremely expensive to operate. Internal facility costs are high. Expense relief for the region has been lost. Alternate locations could reduce costs by as much as 50%. On the other hand, the Fleet House training center is a show place for customer visits, is very convenient, and is an example of one of the most advanced training facilities in the Far East.

The major areas of competition for Educational Services in the Far East are:

- Vendors
- Resellers/OEM/Distributors
- Independent Training Companies
- Universities

With the Vendor environment, pricing is the major issue (not quality). Our competitors (even those that charge in the U.S.) give away first-level training. Their prices for other training are generally 60% of our MLP; however, with local pricing we have reduced this differential to 25%. Major vendors offer training in Hong Kong, Taiwan and Singapore. At this point, Sales cannot say it is losing business because of Educational Services' pricing.

The reseller market is the fastest growing segment of competition for Educational Services in the Far East. These people generally give training away or charge a minimal fee. Training is done either at the hot staging of a product in the U.S. or at the time of installation in the country of destination. (Once again, it is price, not quality, that is the gating factor.) These people are quasi-internal, as they must buy their systems through us.

ASL (our ex-FER distributor) is the major competitor in the LL Environment. It teaches our courses in Singapore and the Philippines at about 50% of our price. Customers say the quality is comparable (It should be; ASL uses Digital-developed materials.). Legal has been given examples of materials and course lists. However, without strong local copyright laws there is not much they can do.

In the PRC, many of the universities are offering DEC training at low cost (60usd/wk) and in local currency. This training will continue to erode our base business. Here again, we have a potential copyright issue. When PRC students attend courses in Hong Kong or the U.S., they get all the pieces of material they can; then bring them back and copy them.

Regional Environmental Assessment Summary

People's Republic of China (PRC)

	FY87	FY88	FY89	FY90	FY91	FY92
GNP	290.0	310.0	332.0	355.0	380.0	406.0
DP Market	360.0	400.0	500.0	625.0	781.0	1000.0
CI	1.2	1.3	1.5	1.8	2.1	2.5
DEC Rev.	52.0	63.0	79.0	110.0	135.0	166.0
% Share	14.4%	15.8%	15.8%	17.6%	17.3%	16.6%
IBM Rev.	56.0	60.0	72.0	86.0	103.0	123.0
% Share	15.6%	15.0%	14.4%	13.8%	13.2%	12.3%

Key External Factors

Politics/Economics

The PRC will continue to move steadily toward more liberal economic systems, while continuing its conservative approach towards foreign debt and investment.

Foreign companies, particularly in high-tech industries, will be under increasing pressure for import substitution, technology transfer and export operations in China.

More rational laws and practices governing business will evolve gradually.

Computer Industry Status

The market is divided into two segments: domestic (mainly heavily over-priced micros) and import (minis and above). Imports from the U.S. are subject to performance ceilings under U.S. Export laws.

Chinese character standards are defined and implemented, but there are no standards for input methodology for terminals.

Local language products availability will determine the size of markets in the administrative and commercial DP area.

Korea

	FY87	FY88	FY89	FY90	FY91	FY92
GNP	71.0	82.0	88.0	95.0	102.0	109.0
DP Market	475.0	550.0	640.0	745.0	867.0	1010.0
CI	6.7	6.7	7.3	7.9	8.5	9.3
DEC Rev.	13.0	18.0	30.0	39.0	52.0	73.0
% Share	2.7%	3.3%	4.7%	5.2%	6.0%	7.2%
IBM Rev.	110.0	125.0	148.0	174.0	205.0	242.0
% Share	23.2%	22.7%	23.0%	23.4%	23.7%	24.0%

Key External Factors

Politics/Economics

Korea is at a vital crossroads point in the evolution of its political and economic systems. Politically, it is lurching towards democracy, under the twin threats of military intervention and North Korean aggression. A successful staging of the 1988 Olympics will mean the country has come of age, politically speaking.

The economy, apart from the political factor, will be subject to free-trade pressures, and will not enjoy the sheltered environment experienced by Japan in the 1960-70 timeframe.

Despite these problems, based on its past achievements and the single-minded pursuit of export-led growth, South Korea should continue to prosper and join the ranks of OECD within the next decade.

Computer Industry Status

Despite the impressive economic growth, the Korean computer market is still in its infancy; the market size and user sophistication is not up to Taiwan's levels.

The PC market is dominated by Korean manufacturers; the mini and mainframe market is dominated by IBM, which has had a subsidiary presence for almost 20 years. Wang got approval for its own operations in 1987. Digital has had an exclusive distributor relationship with the Doosan group, which has outlived its usefulness by at least two years.

Unlike other Far East countries, the government is not yet a major computer user.

Local-language product availability is a must for all nontechnical applications.

The old boy network is a significant aspect of the Korean business atmosphere.

Hong Kong

	FY87	FY88	FY89	FY90	FY91	FY92
GNP	42.0	46.0	49.0	53.0	56.0	61.0
DP Market	340.0	380.0	447.0	525.0	616.0	730.0
CI	8.1	8.3	9.1	10.0	10.9	12.0
DEC Rev.	14.0	30.0	39.0	49.0	62.0	79.0
% Share	7.1%	7.9%	8.7%	9.3%	10.1%	10.8%
IBM Rev.	125.0	135.0	155.0	179.0	205.0	236.0
% Share	36.8%	35.5%	34.8%	34.0%	33.3%	32.3%

Key External Factors

Politics/Economics

Political tensions and insecurity will mount as the 1997 transfer of power approaches, while economic growth and prosperity will continue within the same timeframe.

A key factor is whether China will continue the laissez faire economic management policies of the current colonial administration.

Computer Industry Status

Hong Kong is an intensely competitive market; vendors of all national origins are active, and almost all have Far East HQs here.

Government business is through the tender process, with heavy price competition. IBM and Tandem have a high share of this market.

IBM has the largest market share, and is well-entrenched through large local accounts and through the OEM channel.

Digital's business comes mainly from multinational accounts, the Club, and an increasing number of local large accounts. Digital has enjoyed high growth and high margin.

There is high turnover due to 1997-induced emigration of computer professionals.

Taiwan

	FY87	FY88	FY89	FY90	FY91	FY92
GNP	68.0	76.0	82.0	88.0	95.0	102.0
DP Market	476.0	560.0	659.0	776.0	913.0	1075.0
CI	7.0	7.4	8.1	8.8	9.6	10.5
DEC Rev.	26.0	41.0	55.0	73.0	98.0	130.0
% Share	5.5%	7.3%	8.3%	9.4%	10.7%	12.1%
IBM Rev.	120.0	132.0	145.0	160.0	176.0	194.0
% Share	25.2%	23.6%	22.0%	20.6%	19.2%	18.0%

Key External Factors

Politics/Economics

Taiwan possesses a strong, export-oriented economy, with the second-largest foreign reserves position after Japan. Its increasing trade liberalization allows for more imports, particularly from the U.S.

Political efforts are underway to "normalize" relations with PRC, with the emphasis on a one-country/two-nation basis (as East and West Germany) rather than on a one-country/two-systems basis (as projected for PRC and Hong Kong).

Computer Industry Status

Taiwan's DP market is currently modest but will grow faster than GNP, and be over \$1B by FY92.

As yet, there are no universal standards for Chinese character set or input.

Singapore

	FY87	FY88	FY89	FY90	FY91	FY92
GNP	18.0	19.0	20.0	21.0	23.0	24.0
DP Market	255.0	300.0	328.0	359.0	393.0	430.0
CI	14.2	15.8	16.3	16.8	17.4	17.0
DEC Rev.	15.0	23.0	2.0	35.0	44.0	55.0
% Share	05.9%	07.7%	08.5%	09.7%	11.2%	12.8%
IBM Rev.	120.0	132.0	143.0	154.0	167.0	180.0
% Share	47.1%	44.0%	43.5%	43.0%	42.5%	41.9%

Key External Factors

Politics/Economics

Politically, Singapore is the most stable country in Asia, after Japan. Its economic growth, after a temporary stutter in 1985-86, is back at the 5-6% level. It has a dirigiste-type economy, with the Government very much in the driver's seat.

There is a heavy focus in Singapore on encouraging high-tech industries to locate and develop in the country. It is a favorite location for U.S. companies, and recently, for Japanese consumer and industrial electronics companies. They are responsible for more than 50% of Singapore's GDP and more than 70% of its exports.

Computer Industry Status

Singapore has the highest CI factor in Asia after Japan, with high levels of user sophistication. The government, banks and multinational companies are major DP users.

There is no significant local-language product requirement in Singapore.

The government is at the forefront of pushing leading-edge computer applications, e.g., OA, EDI, etc.

Digital, HP and a few other vendors have manufacturing presence in Singapore; IBM sources heavily in Singapore. Digital has had to fight off heavy brokering by its previous distributor and other companies.

Regional Objectives/Strategies

Customer Satisfaction Objectives

We will strive to be recognized by customers and prospects as a responsive, professional and reliable supplier of information products, systems and services. As we set and achieve aggressive goals for customer satisfaction in internal surveys, we intend to be rated the first vendor in customer satisfaction in independent surveys in every Far East country.

Strategies

By developing country and Far East Headquarters (FEHQ) field operations to enable country units to function as both tools and solutions suppliers, we will better market and deliver Digital's comprehensive range of systems and network services. We will also provide better total customer solutions by increasing the content of Software, PSG, CSS, and Field Services products in the mix of products we sell.

We will develop the set of local-language products necessary to make Digital products relevant and saleable in Far East country markets. By aggressively developing capabilities needed to implement large projects, we will exploit the leverage of Digital's corporate plant and engineering activities in the Far East, to better serve and sell customers in the Region.

Employee Satisfaction Objectives

By providing an open work environment that stimulates creativity, professionalism and dedication, we will improve our ability to attract and retain motivated employees. Our goals: to have the lowest turnover rate in each Far East country relative to industry, and to increase the rate of internal promotion to the level of unit manager and above.

Strategies

We will work to ensure that every employee knows his or her internal and external customers, and takes personal responsibility for customer satisfaction. We will keep all employees informed of business and organizational developments.

A high priority will be to make employee development a major metric for all supervisors. We will maintain a compensation and benefits program consistent with corporate philosophy and Far East requirements.

Corporate Image Objectives

We will endeavor to gain acceptance as a good and desirable corporate citizen in every Far East country, and to have Digital recognized as a key contributor to each country's development and progress.

Strategies

Compliance with corporate business ethics and U.S. and Far East country laws will be mandatory in all our relationships with customers, employees and vendors. Developing each Far East country as a business unit will create a new self-sufficiency in Far East operational resources, and assist in achieving Far East objectives.

Making FEHQ a Management Center for all Far East countries will help ensure integration of functional goals at each geography level. We will increase direct Digital presence in distributor countries, and continue to pursue excellence in every function at both the Country and Regional levels.

Business Performance Objectives

Within the corporation, we will be viewed as an organization that consistently meets all of its individual business goals and has an aggressive focus on productivity improvements.

Strategies

Exploiting fully the capabilities of Digital's computing and networking environment, we will define and implement management systems that support effective decision-making and increase the quality and productivity of our operations and our services to customers.

Through this "use what we sell" approach, we will make Digital's information services a model for the use of information technology. As we adopt systems, policies and procedures from more mature Digital organizations, we will make the Far East the anti-NIH (Not Invented Here) capital of Digital.

Market Share Objectives

By aggressively exploiting opportunities provided by corporate strategies and capabilities, along with the special opportunities of the Far East Region, we aim to have the highest market-share growth each year in every Far East country.

Strategies

In addition to establishing and maintaining a leading position in markets and applications that are traditional Digital strengths, including education, research, engineering, and manufacturing, we will focus on new markets such as finance, telephone, utility industries, and information systems and office information applications.

We will develop capabilities for successfully addressing the civil government and defense markets, generally the biggest single market segment in Far East countries. We will also develop and implement direct and indirect channels of distribution consistent with corporate strategies and policies and the environment and resources of Far East countries.

Through direct marketing, communications and image-building activities, we will develop a keen awareness of Digital's capabilities and uniqueness, thereby becoming the preferred vendor for corporate and large country accounts.

Educational Services Objectives

By providing services to leverage Digital's position in the educational market and meeting the Educational Services financial goals, we will become the preferred supplier of educational products and services in Far East countries.

Strategies

We will participate with the regional marketing organization to deliver the highest level of training products and services to customers and employees. We will work to ensure good communications among the Educational Services organizations at corporate, regional, country and area levels.

We aim to offer an increasingly wider range of products and services to both audiences. We will develop an organization capable of responding to the training requirements of employees and customers at the country level, ensuring that corporate and regional educational products are designed to adapt easily to country markets.

To support necessary employee training and high-volume customer training at the country level, we will establish regional training resources, including a regional training center in Hong Kong.

Country-Specific Objectives/Strategies

People's Republic of China

Digital plans to remain the leading foreign computer vendor and to become an active participant in local computer industry development.

We must also develop a greater in-country presence for customer service activities and engage in some manufacturing activity to satisfy import substitution and export requirements.

A local-language products and solutions consulting program is planned to help access broader market segments.

Korea

To ensure success, Digital plans to establish direct operations in Korea in order to address both the sourcing and marketing potential offered by the country. Digital also plans to develop a CSS capability with competence in industrial control applications.

We plan to maintain a relationship with Doosan in order to address certain markets and to access the old-boy network.

We must also develop large account and large project capabilities, aggressively market the local-language products developed by Engineering, and develop a strong OEM channel.

Hong Kong

Digital must continue its focus on acquiring more local large accounts, particularly in the Transportation, Financial, Communications and Manufacturing industries. In order to do this, we must develop a strong OEM channel, increase our range and depth of customer services and effectively manage the 1997 problem.

Taiwan

Digital plans to increase the range of customer services and to develop the ability to acquire and implement large projects. We must also develop local private-sector accounts and a strong OEM channel.

Singapore

Digital must build on its significant successes with OA and networks at key educational and government organizations in Singapore, and increase the range and depth of customer services.

In addition, Digital must develop large-project capabilities and build a FE competency center (ACT) for OA and networks; collocate NAC marketing group.

India

The primary goal is to implement the joint-venture plan and become the number-one vendor in India. We will also implement a cross-functional program as outlined in the Education Services' Business Plan. In FY89-90 Educational Services plans to focus investments on India and GID, as these geographies represent the greatest potential for growth.

Factors which support this action include favorable business climates in India that support favoring a joint venture, and acceptance of the new distributor template which prohibits copying of training materials for local use and reduces the total discount if training investments of local personnel are neglected.

Regional Goal Summary

Macro Quantitative Goals

	Act. FY86	Act. FY87	Fcst. FY88	< -- -- -- FY89	Nov. Targets FY90	-- -- --> FY91	> FY92
Business (US \$)							
• NOR	107	139	186	248	334	432	562
• SCM (\$)	55.3	66.2	88.9	110.4	150.6	196.0	258.5
• SCM (%)	51.7	47.6	47.8	44.5	45.1	45.6	46
• Customer Sat. Field Service	08.4	08.7	08.9	09.0	09.1	09.1	09.2
• SWS	N/A	07.2	07.7	08.0	08.2	08.4	08.5
- Ed Services (QA)	81.0	93.0	87.0	88.0	90.0	92.0	94.0
- Sales	N/A	06.9	07.3	07.4	07.6	07.7	07.7
• QA Class	81	93	87	88	90	92	94
Market							
• Computer Index (Computer Industry/GDP)	03.2	03.6	04.0	04.4	04.8	05.2	05.5
• CAGR for Computer Industry	18%	18%	18%	18%	18%	18%	18%
• CAGR for Digital		29.9%	33.8%	33.3%	34.7%	29.3%	30%
• Digital Share	06%	06.8%	07.2%	08.2%	09.2%	10.2%	11.2%
• IBM Share	33.5%	32.9%	32.2%	31.2%	30.2%	29.1%	28.0%
• Digital Ranking	2	2	2	2	2	2	2
Employees							
FER							
• Systems		178	250	390	475	605	735
• Services		437	623	924	1171	1503	1888
• Total Region		833	1114	1619	2019	2528	3093
• Direct/Ind Ratio		2.09	2.23	2.42	2.37	2.49	2.59
• Sls/PreSls Ratio		1.62	1.13	1.03	1.03	0.97	0.87
Ed Services							
• Direct	12	27	36	42	47	54	65
• Indirect	7	11	14	16	19	21	26
• Total	19	39	50	58	66	75	91
• Direct/Indirect Ratio	1.7	2.5	2.6	2.6	2.	2.6	2.5
Productivity							
Educational Services							
• NOR/Employee	279	123	132	148	171	199	214
• SCM/Employee	115	39	52	60	71	88	99
FER							
• NOR/EMPLOYEE		166.9	167.0	153.2	165.4	170.9	181.7
• SCM/EMPLOYEE		81.5	76.1	67.9	73.9	76.8	80.7

(continued)

	Act. FY86	Act. FY87	Fcst. FY88	< -- -- FY89	Nov. Targets FY90	-- --> FY91	-- --> FY92
U.S. Dollars							
• MLP		142	186	241	316	398	500
• NOR TOTAL	107	139	186	248	334	432	562
- Systems		110	140	181	239	301	385
- Services		29	42	68	95	131	177
- Ed. Services	05.3	04.8	05.8	07.6	10	13.2	17.4
• NOR Growth (%)							
- Systems			44.8	61.9	39.7	37.9	35.1
- Services			27.3	29.3	32.0	25.9	27.9
- Ed. Services	341	(-9.4)	21	32	32	32	32
• SCM Total : (%)							
- Systems		47.6%	47.8%	44.5%	45.1%	45.6%	46.0%
- FS		56.9%	47.0%	47.0%	47.0%	47.0%	47.0%
- SWS		65.0%	30.0%	30.0%	30.0%	30.0%	30.0%
- Education		31.0%	22.0%	30.0%	35.0%	40.0%	40.0%
- Total		48.9%	46.6%	44.4%	44.7%	44.9%	45.0%
Educational Services							
• NOR	5.3	4.8	5.8	7.6	10	13.2	17.
• NOR Growth (%)	341	(-9.4)	21	32	32	32	32
• Spending (Expenses)	3.1	3.3	4.4	5.3	6.5	7.9	10.4
Sales Metrics (\$ US)							
• CERTS							
- Systems		110	140	181	239	301	38
- FS		22	32	49	67	91	117
- PSS		02	03	07	12	20	32
- Educational Services		04.8	05.8	07.6	10	13.2	17.4
• Total (Disconnect) w/Korea		139	186	248	334	432	562
- Yield (Sales & ES)		1253	1333	1184	1200	1230	1263
Productivity							
Educational Services							
• NOR/Employee	279	123	132	148	171	199	214
• SCM/Employee	115	39	52	60	71	88	99
FER							
• NOR/Employee		166.9	167.0	153.2	165.4	170.9	181.7
• SCM/Employee		81.5	76.1	67.9	73.9	76.8	80.7

Manpower (End of Year)

Educational Services Customer Headcount

- Direct 31
- Indirect 11
- Ratio 1 : 2.8

Educational Services Total Headcount

- Direct 36
- Indirect 14
- Ratio 1 : 2.

Chapter 3

Japanese Region

Regional Management Summary

LRP FY87 Results

The FY87 results were, as a rule, favorable in view of the economic environment. The most distinctive feature of the FY87 economy was a flat or a negative investment climate in many of Nihon Digital's traditionally strong industries. Computer investment in the electronics manufacturing industry went flat; in transportation manufacturing it went overseas while mechanical manufacturing industries declined. While Nihon DEC made market-share gains in these industries in FY87, the effect was diminished by the reduced industry prospects.

Nihon DEC had very positive results in the service industries. The FY87 focus was on the Finance and Telecommunications industries, with the result that we not only met but exceeded share plans. The results in other service industries were good, with strong showings in Distribution and General Services. These encouraging results point to the opportunity in these industries.

The net results of the Nihon DEC FY87 plan were mixed, we gained share in each one of our target industries but grew no more than the market growth rate (7.3%) given the high proportion of our business in the base industries.

Internally, much was accomplished in FY87: the approval of the Manufacturing proposal, the establishment of the Asian-Based Systems Software group, and the approval of significant personnel hiring. How the local VAX manufacturing is to be used will be described later, but its importance is clear. It has already influenced Nihon DEC's admission into certain Japanese industrial associations.

The Asian-Based Systems Software group got under way, freeing up Software Service resources for project business. Specifically, the ABSS group is working on the next version of Kanji ULTRIX which is highly important for supporting our traditional markets. VMS V5.0 Kanji development is now being planned.

Major additions of manpower to Nihon DEC have added considerable depth to the organization, including many top-quality graduates who will add to the strength of the company over the next several years.

In terms of goals, Nihon DEC exceeded the following FY87 goals.

	BOD	Actual
NOR \$	294.0M	331.0M
NOR Yen	57.4B	58.2
SCM %	43.1	44.4

The External Environment for FY88

The FY88 external environment is positive. The Japanese economy is recovering from the yen shock faster than expected, although some of its effects will remain in the base industries. Japanese companies will invest their way out of their difficulties, aiming at high added-value products and services on a worldwide basis.

We assume this behavior will have several beneficial effects. First, it will restimulate computer demand. Second, many traditional patterns of business and traditional vendor relationships will be overturned if another vendor offers a better solution. Third, the search for higher added-value products and services implies more and better networking as a tool to get closer to the customer and to use information as a strategic weapon. Finally, all computer customers of merit will be international in scope and operations, and will need an international computer vendor.

We assume at the same time, however, that our competitors will not be napping. Many of them will be hungry after a bad year, and will chase business aggressively. We expect them to promise network capabilities whether they have them or not. As for international business, Nihon IBM has already dispatched sales and presales to the U.S. to chase Japanese customers.

Specifically, we assume the following for FY89.

- GNP growth rate - 3.7%
- Computer growth rate - 17.5%

The Internal Environment for FY88

It is our intent to maximize the return on our FY87 additions. The new manufacturing facility, beginning production in Q2 FY88, will be used as a showcase. The current facility has been made more attractive. The future facility should be in a customer-convenient location with a manufacturing ACT and should show the manufacturing systems that we sell. ABSS, through its coordination with Marketing, will create leadership in Japanese-language processing capability.

The new directors' program will be linked to an executive customer-contact program. The new hires, especially in sales, will be organized around the industry marketing focus.

We do, however, have limitations in organizational effectiveness that must be addressed. First, we are concerned about the tight SCM percentage guidelines and the long-term implications. Many of the FY87 additions were made possible by the high yen. The risk is the differential created between MLP and JLP through uplift. Second, due to budgeting system peculiarities, we cannot always hire all the people needed in strategic areas such as presales even though the total headcount figures are per-plan. We are also behind on applications and marketing items compared to our FY87 LRP.

The following is a comparison of the applications planned for FY88 versus what we can afford.

	Planned	Actual
Finance	8	1
Telecom	9	2
CIM/IS	7	1

While customers funded the creation of new applications, our weakness in the application area becomes obvious when Tandem beats us on major network project bids because we lack the essential protocols. In a similar vein, we did not have the incremental \$2 million funding for the marketing programs we put in last year's LRP.

The Goals of the FY88 LRP Process

In the FY88 LRP we will focus on strategic-market opportunities. In industry marketing, we will focus as follows.

- Finance - enhance focus
- Telecom - enhance focus
- Auto - new focus
- Distribution - new focus
- International - new focus

In applications, we will continue to enhance our CIM and IS focuses. For products, we will pursue the opportunity in low-end systems with the organizational focus needed for success. For channels, we will seek out major opportunities in traditional channels as well as in strategic partnerships.

It is our goal to grow at a compound rate of 33% in local currency from FY88 onwards to achieve our \$1.5 billion and 2.5% market-share targets in FY92. In setting these targets, we would like to emphasize again the concerns and risks outlined in the previous section. We anticipate GIA management's support in mediating these risks.

Educational Services Regional Management Summary

Educational Services Japan supplies high-quality education and information products and services, as well as computer-based training systems to Digital's customers, employees, and noninstalled-base customers.

We will continue to develop and deliver many high-technology-related educational products such as video tapes, video discs, computer-based instruction, lectures, and books.

In the coming years, our primary targeted business segments are AI Networks, Finance, and CAD. The training delivery methods will be lectures, video tapes, CAI, tools and video disks.

Training Facility Business

Expected revenue from our training facilities will depend heavily on DEC-J hardware sales and product mix. If DEC-J sells many large systems, then EDU-J can expect high revenue from facility training activities. On the other hand, if DEC-J generates large portions of its revenue from small systems, then we can expect little revenue from facility activities.

This also holds true for OEM business. If a large portion of DEC-J's systems business comes from OEMs and systems houses, then EDU-J cannot expect high revenue from hardware systems businesses.

Based on the latest estimate prepared by the marketing department about product mix and OEM vs. End-User businesses, we expect the following facility-based revenue.

Long-Range Forecast

	FY88	FY89	FY90	FY91	FY92
NOR (K\$)	7,636	10,171	13,882	19,080	26,350

AI Business

We started the AI business by introducing video tapes of *Introduction to Artificial Intelligence* three years ago. The video tapes have been well accepted in the market and we have sold over 250 sets.

Applied AI video tapes have also been developed and marketed in Japan. These have been targeted to Digital-installed- and noninstalled-base customers.

We will continue to produce AI-related video tapes.

We modified the DEC U.S.-made Knowledge Engineer course targeted for Digital Employees and introduced a Japanese version of the KE course. This course was 47 days in length and had a high price of \$38,000K in FY86. So far, we have run this three times and it has been well accepted by the participants. We will continue to run this at least two times a year in the future. We also expect to provide exclusively arranged KE courses for specific customers.

In addition to the existing KE courses, we will introduce a new KE course which will be targeted to the financial market.

Various kinds of seminars, such as Realtime Expert System and Diagnostic Expert System, have been offered to both installed and noninstalled customers to enhance DEC's high reputation in the AI field.

In the future, we will invite well-known persons in the AI field outside of Japan to speak at a variety of AI-related seminars.

We are expecting the following numbers from AI-related business.

Long-Range Forecast

	FY88	FY89	FY90	FY91	FY92
NOR (K\$)	1,712	2,500	3,500	4,900	6,800

CAI Business

We believe that the main market for CAI is the Digital installed base market.

Our first step is to approach this market with the CAI software which teaches how to use our products. We think this approach is particularly important for our low-end products such as MicroVAX and VAXstation. The second step is to approach our OEMs to develop courseware for their products. The third step is to take project business similar to what ETG is currently doing.

We believe that the most important thing in CAI businesses is to focus our initial efforts on selling our services and products to Digital hardware customers. The main reasons for this approach are:

1. Customers know DEC and we do not have to sell DEC.
2. We can sell our services and products through the existing sales forces or through a larger number of salesmen than any other CAI-related companies in the market.
3. Since DEC customers have DEC computers already, customers do not have to buy computers for the purpose of CAI. This means that the entry barrier for DEC is very low, but is very high for DEC competitors.
4. DEC customers want to have economical and effective training methods. This is true for both our end-users and our OEMs. Our end-users want to learn how to use our computers quickly and economically. This is particularly true for users of our less expensive VAX systems such as MicroVAX and VAXstation.

Our OEMs are also looking for less expensive, yet effective teaching methods to train their users about the systems they sell.

We are expecting the following revenue stream from CAI business for the coming years.

Long-Range Forecast

	FY88	FY89	FY90	FY91	FY92
NOR (K\$)	200	600	800	1,100	1,400

Network Business

We introduced video tapes of *Introduction to Data Communication* in November of FY87, and we have sold over 220 sets over the past 10 months. We believe that we will continue to be able to sell more in the near future.

We have recently run several DECnet customer-training courses and will continue to try to market them. Also, we have continuously provided network seminars, including OSI seminars, for installed-base customers as well as noninstalled-base customers.

Network University is DEC U.S.-made courseware and has been provided only for employees in the U.S.. We will modify part of it and open it to both installed- and noninstalled-base customers and employees. The length of the course will be four to eight weeks. It will cover all necessary elements in data communication and computer networking.

The business we are expecting from network segments is as follows.

Long-Range Forecast

	FY88	FY89	FY90	FY91	FY92
NOR (K\$)	1,100	1,360	1,500	1,800	2,100

Regional Environmental Assessment Summary

Key External Factors

Geography

Japan is highly concentrated with 33 million people in the Kanto Plain. The Japanese government is developing new model cities outside of the Tokyo area to relieve the enormous congestion. The new construction will stimulate domestic demand, and the new cities are opportunities for networking solutions.

Human Resources

At current productivity rates there is a shortage of software engineers needed to fuel Japan's growth in computing applications. This will be an enormous stimulus for CASE tools and Digital-style distributed-software development.

Population

Population growth has stopped, and the average age is rising rapidly. Computer demand will flourish as the availability and cost of manpower escalates.

Language

The Japanese speak Japanese, which fuels a race among Japanese computer vendors to best satisfy local-language requirements. For this reason, excellent local language processing is essential.

Education

The Japanese have one of the highest educational standards in the world. They will use computers increasingly in education, which will provide a population highly adaptable to computerization.

Government

The government is shifting from guidance by control to guidance by vision. It will increasingly build networks and model cities to create an integrated Japan.

Economics

For FY88, the forecasted GNP growth is 3.2%. Private consumption and private housing investment are the economic drivers this year. Manufacturing activity is good, with profits up 42.7%, and private plant and equipment investment is up also.

The extended forecast is as follows.

Long-Range Forecast

	FY86	FY87	FY88	FY89	FY90	FY91	FY92
1. GNP: Nominal (YEN B)	320,995	334,026	346,385	367,514	386,625	406,343	427,067
	5.9%	4.1%	3.7%	6.1%	5.2%	5.1%	5.1%

(continued)

	FY86	FY87	FY88	FY89	FY90	FY91	FY92
Real (YEN B)	292,848	300,887	310,515	322,004	331,665	337,966	346,753
	4.2%	2.6%	3.2%	3.7%	3.0%	1.9%	2.6%
2. Computer Industry: (YEN B)	2,859.8	3,145.8	3,696	4,340	5,100	6,000	7,000
(B/A)	0.9%	0.9	1.1	1.2	1.3	1.4	1.6
3. Commodity Price Index:							
Consumer Price Index: (1985=100)		100.6	101.8	104.5	106.6	110.4	113.3
Wholesale Price Index: (1980=100)		88.1	87.9	89.5	90.7	93.7	95.5
Current Balance of Payments: \$B		55.0	93.7	86.3	86.9	93.3	89.9

Computer Industry Status

Growth

The computer industry recovery is exceeding our FY87 forecasts for FY89. Growth potential for Nihon DEC looks good.

Solutions

The major computer vendors are focusing on solution sales, with sales to presales/SEs of 1:2. Nihon DEC has to create a competitive-solutions business model.

Shakeout

Continuing industry shakeout in the midranked vendors will push them into a niche position. These midranked vendors may look to Nihon DEC as a strategic partner to provide systems for their niche solution.

Partnerships

Large noncomputer companies are looking to Nihon DEC for cooperative solution creation. Nihon DEC must create a large partner strategy.

Competition

DEC, not IBM, is increasingly becoming the role model among the top Japanese computer vendors. Digital will have to work aggressively to exploit its advantages and explain the "Digital Difference" in a manner the customer can understand.

The Top-4 Competitors are as follows:

	Fujitsu	NEC
Paid-in Capital	\$669M	\$678.5M
Revenue	\$6041M(FY86) 23.2%(FY83-86)	\$4978M(FY86) 24.5%(83-86)
Employees	48,383	36,832
Subsidiaries	45 Software Houses (Principle:One software house each pref.)	32 (14SWH+others)
Sales Offices	74	92
Dealers	360	
Strategies		
• Corporate Strategies	<ul style="list-style-type: none"> • Establish SW houses • Change compatibility from IBM • Increase sales ratio of small-type computers • Intensify SE services 	<ul style="list-style-type: none"> • Establish SW Houses and other subsidiaries • Support NEC, Honeywell and Bull joint venture • Large Mainframe for Financial Market • Sales strategies for office computers, WS • Sales strategies for VAN service and CAEM
• MKTG Strategies	<ul style="list-style-type: none"> • Increase application SW products • Penetrate AI market 	
Productivity	\$195K/employee	\$354K/employee

	Hitachi	N-IBM
Paid-in Capital	\$935.4M	\$657.7M
Revenue	\$3,557M(FY86) 21.2%(FY83-86)	\$4705M(FY86) 20.7%(83-86)
Employees	79,140	18,822
Subsidiaries	39	16 Software houses
Sales Offices	44	68
Distributors		300
Strategies	<ul style="list-style-type: none"> • Intensify integrated OA system using W/S • Win HW technology competition in mainframe • Change from Production type Business to Sales MKTG oriented Business 	<ul style="list-style-type: none"> • Establish Software Houses(2-3 a year) as subsidiary • With 3rd Parties in system integration area • Japanization in business • Reorganize dealer's organization • Intensify AI business • Form #4 Sell in the name of other company brand • Meet market prices to expand their business
Productivity	\$262K/employee	\$363K/employee

Competitors Strength/Weakness

Competitors	Strength	Weakness
Fujitsu	SE numbers Fast CPU Company group Company image Government market Disk technology	Originality Local business Networking Less applications in CAD/CAM area Lower Profit ratio Payment to IBM
NEC	Profit ratio Productivity Fast CPU Company group Dealer management Company image Original architecture PC business Political power	Networking Less applications in CAD/CAM area Scientific calculation Mini computer Workstation
N-IBM	Company image System, engineers Application softwares Fast CPU Strategic Marketing/ management	Cost performance Compatibility Networking Disunified architecture
Hitachi	Company group Fast CPU Company image Synthetic power (Technology)	Compatibility Networking Less applications in CAD/CAM Dealer management

Market Segmentation

Worldwide Computer Market Comparison

Items	U.S.A.	Europe(EC)	Japan	Canada	SPR
	U.S.\$	U.S.\$	U/S/\$	U.S.\$	U.S.\$
GNP	4201 B (FY87)	4775 B (FY86)	2386 B (FY87)	323 B/GDP (FY86)	170 B (FY86)
Computer Market Size	81 B	35 B	31 B	6 B	4.2 B
DEC NOR	5.6 B	2.2 B	416 M	337 M	176 M
DEC Market Share	7.0%	6.3%	1.3%	5.5%	4.2%

Notes: Y140 = \$1.00, US\$0.7156 = C\$1.00

Computer Demand by Industry

1. Basic Ind.	CAGR	FY86	FY87	FY88	FY89	FY90	FY91	FY92
Construction	13%	380	430	485	550	620	690	780
Foods & Bev.	10	290	320	360	395	430	475	520
Textile	10	250	240	240	265	335	400	480
Pulp, Paper	13	100	120	140	150	170	190	210
Printer	13	430	485	550	620	700	790	890
Petro	6	160	18	170	170	180	200	230
Chem. Pharm.	17	400	460	565	660	770	900	1050
Glass, Cement	14	130	120	120	130	175	250	330
Steel	10	460	400	410	425	530	680	810
Non-Ferr, MET	13	280	250	260	280	360	490	580
General Machi	14	380	350	350	385	505	740	960
Elec. Equip.	13	4170	3900	4020	4910	5890	7190	8630
Trans. Equip.	12	780	720	720	790	1110	1350	1620
Precis. Equip.	8	540	530	530	600	670	760	850
Other Mfg.	13	430	430	430	475	615	790	1030
Basic Total		9180	8935	9350	10805	13060	15895	18970

(continued)

2. Services Ind.	CAGR	FY86	FY87	FY88	FY89	FY90	FY91	FY92
Utilities	13%	580	660	745	845	960	1090	1230
Trans. Comm.	14	1040	1180	1345	1530	1740	1980	2260
Whole, Retail	12	3670	4125	4635	5205	5840	6580	7370
Financial	15	3750	4310	4960	5700	6560	7540	8670
Real Estate	11	30	35	35	40	45	50	60
Services	13	2920	3310	3750	4260	4810	5490	6200
Other Services	12	480	535	600	675	755	840	940
Services Total		12470	14155	16070	18255	20710	23570	26730

3. Education/Government

Education	11%	1040	1150	1270	1405	1555	1730	1920
Public	12	2220	2330	2565	2950	3485	3910	4380
Edu/Gov. Total		3260	3480	3835	4355	5040	5640	6300
Total Ind.		24910	26570	29255	33415	38810	45101	52000

Long-Range Plan

	Mkt. Size	FY88			FY92			
		DEC-NOR	Direct Sales	Pre- sales	Mkt. Size	DEC-NOR	Sales	Adv.
Disc. Ind.	7130	299(4.2%)	255	73	14825	740(5%)	366	366
Process Ind.	2220	30(1.4%)	22	6	4145	105(2.5%)	55	55
Edu.	1270	8(0.6%)	7	3	1920	45(2.3%)	23	23
Gov.	2565	12(0.5%)	10	4	4380	105(2.4%)	53	53
Teleco Ind.	450	30(6.7%)	25	9	760	70(9.2%)	35	40
Finan Ind.	4960	30(0.6%)	35	17	8670	185(2.1%)	93	185
Services Ind.	10660	57(0.5%)	40	13	17300	250(1.4%)	125	12
	29255	466(1.6%)	394	125	52000	1500(2.9%)	750	847

Regional Objectives/Strategies

Customer Satisfaction

Our aim is to understand customers' business needs and future expectations, and to promote and provide deliverables and capabilities that meet those needs. We will continue to develop our employees into a strong organization that is easy for our customers to deal with, promoting a "Total Quality Improvement" program in all functions of Nihon DEC.

Employee Satisfaction

We will strive to build a strong membership mindset and identity on the part of employees, as well as a good organizational climate, through a program of good compensation and benefits, and fair personal treatment for all.

External Relations

A good company image will result from strong market presence, company visibility, and a good external relationship management system. In addition, we will maintain our good image by participating in government and university projects.

Corporate Satisfaction

We will continue to develop healthy business growth by optimizing the utilization of company resources, and by leveraging Nihon DEC's resources to support corporate opportunities. We will create and integrate solution products and services, and manage the solution process with consistency and continuity.

Regional Goal Summary

Overall

	FY86	FY87	FY88	FY89	FY90	FY91	FY92
Business							
• NOR	7018	9850	13230	16715	22545	29533	39574
• SCM(\$)	3543	4071	5424	6853	9244	12109	16225
• SCM(%)	50.5	41.3	41.0	41.0	41.0	41.0	41.0
• Customer Satisfaction	6.6	7.0	7.4	7.8	8.0	8.3	8.5
Market							
• Comp Index	1.2	1.3	1.4	1.6	1.8	2.1	2.4
• CAGR for Comp Ind	20.0	7.3	13.5	17.5	17.5	17.5	17.5
• CAGR for DEC(%)	23.3	7.1	21.0	34.0	34.0	34.0	34.0
• DEC Share (%)	1.4	1.4	1.5	1.8	2.0	2.3	2.6
• IBM Share (%)	16.7	15.8	15.4	14.9	14.5	15.1	13.7
• DEC Ranking	11.0	10.0	10.0	10.0	9.0	8.0	7.0
• QA Class	90.0	89.0	87.0	88.0	89.0	90.0	90.0
Employees							
• Customer	61	69	83	105	133	165	206
• Internal	17	19	29	35	44	55	69
• Total	78	88	112	140	175	220	275
• Direct/Indirect Ratio	80.8	81.8	83.0	82.9	82.9	82.7	82.9
Productivity							
• NOR/Employee	90.0	111.9	118.1	119.4	128.8	134.2	143.9
• SCM/Employee	45.4	46.3	48.4	49.0	52.8	55.0	59.0

Regional LRP Financial Summary

	FY86	FY87	FY88	FY89	FY90	FY91	FY92
U.S. Dollars							
• MLP (M \$)	139.2	187.5	247.7	324.5	435.2	588.4	798.3
• NOR Total	217.6	330.5	466.1	591.0	782.0	1046.0	1417.0
- Systems	155.2	209.6	281.4	360.0	482.0	651.0	866.0
- Services	62.4	120.9	184.7	231.0	300.0	395.0	531.0
• NOR Growth (%)		51.9	41.0	26.8	32.3	33.8	35.5
• G.M. Total (\$ as % NOR)		60.6	63.9	64.2	63.9	63.7	63.4
- Systems		60.6	73.0	72.2	72.9	72.7	72.7
- Services		N/A	50.2	50.0	48.7	47.8	46.9
• SCM Total (%)	45.5	44.4	45.2	44.0	44.0	44.0	44.0
- Systems	43.7	42.2	44.5	43.3	44.0	44.2	45.3
- Services	47.9	48.1	46.3	45.2	43.9	42.8	41.8
Local Currency							
• LC:\$ ASSUMPT	248.0	171.0	150.0	145.0	145.0	145.0	145.0
• NOR(LC)B-YEN	54.1	57.4	69.9	85.7	113.4	151.4	205.5
• NOR Growth (%)		6.1	21.6	22.6	32.3	33.8	35.5
• Spending							
- (LC) B-YEN	29.4	31.4	38.3	48.0	63.5	84.9	115.1
- (%)		6.8	22.0	25.3	32.3	33.7	35.6
Sales Metrics (\$)							
• CERTS							
- Systems	155.0	222.2	305.0	409.0	555.9	752.4	1017.2
- Services	—	158.9	204.4	242.7	322.1	449.6	617.8
- Total	155.0	381.0	509.4	630.2	845.4	1157.4	1581.7
• Yield							
- Systems	720.9	647.1	672.7	738.9	797.6	852.1	903.8
- Services	—	7218.2	6193.9	6303.9	6378.2	6660.7	7020.5
- Total	720.9	1042.7	1047.3	1100.8	1174.6	1264.6	1347.3
• COB							
- Systems	13.5	16.3	16.5	15.9	15.6	15.5	15.4
- Services		1.0	1.5	1.5	1.5	1.4	1.4
- Total		9.9	10.5	10.5	10.4	10.2	10.1
Productivity							
• NOR/EMPL	129.6	169.2	193.6	200.4	220.0	242.9	259.1
• SCM/EMPL	59.0	75.1	86.6	88.2	96.8	106.	114.0

Nihon DEC Integrated Industry Marketing Plan

Discrete Industry

Sub Industries

- Automotive/Transportation
- Electronics
- General Machinery
- Construction
- Precision Machinery
- Printing

Market

Industry Total	FY88	FY92
Market Size	7130	14825
DEC NOR	303	740
Market Share	4.2%	5.0%

Target Accounts

Active	Proposed
Matsushita	Toyota
Toshiba	Nissan
Mitsubishi	Kajima
Oki	Taisei
Seiko	Komatsu
Ricoh	Sanyo
	Sony
	Canon

Critical Applications

Current	Future
Electronics CAD Mechanical CAD Software Development Tools	OA (Japanese ALL-IN-1) CIM (Shop Floor Control) Distribution Management System

Critical Products

Current	Future
High Performance, High Resolution Workstation High Speed Uni-Process Super Computer Main Frame Link	Fault Tolerant Computer High Performance and High Reliability Mass Storage System High Performance Data Base

Manpower

	FY88	FY92
Sales	255	350
Presales	73	350

Competitors

	FY88	FY92
N-IBM	24.3%	21.8%
Fujitsu	21.3%	16.3%
Hitachi	17.3%	13.9%
NEC	12.9%	10.9%
N-DEC	4.2%	4.7%

Process Industry

Sub Industries

- Chemical & Pharmaceutical
- Food & Beverage
- Oil & Gas
- Steel
- Textile
- Pulp & Paper
- Glass & Cement

Market

Industry Total	FY88	FY92
Market Size	2220	4145
DEC NOR	30	105
Market Share	1.4%	2.5%

Target Accounts

Active

Kyowa-Hakko
Toray
KAO
Yamanouchi
Suntory
Ajinomoto

Proposed

Kirinb
Yukijirushi
Mitsubishi Chem.
Taisho Pharm.
Takeda Pharm.
Nippon Steel
Showa Shell
KOA Oil
Idemitsu

Critical Applications

Current

Bio-Chemical Application
AI
Laboratory Automation
Project Management

Future

CIM (Shop Floor Control)
Sales Management System
Distribution Management System

Critical Products

Current	Future
High Performance 3-D Engineering Workstation Super-Computer, Vector Processor Multi-Vendor Networks (Main Frame Link)	Fault Tolerant Computer OLTP, High Performance Data Base High Performance, Highly Reliable Mass Storage System

Manpower

	FY88	FY92
Sales	22	55
Presales	6	55

Competitors

	FY88	FY92
Fujitsu	33.6%	25.7%
N-IBM	18.5%	17.9%
NEC	13.8%	11.7%
Hitachi	10.1%	8.1%
N-DEC	1.4%	2.5%

Education Industry

Sub Industries

- MOE University Ind.
- Other School Ind.

Market

Industry Total	FY88	FY92
Market Size	1270	1920
DEC NOR	8	45
Market Share	0.6%	2.3%

Target Accounts

Active	Proposed
Tokyo Univ. Tohoku Univ. Kyoto Univ. TIT Tsukuba Univ.	Kyushu Univ. Hokkaido Univ. Nagoya Univ. Osaka Univ. Waseda Univ. Keio Univ. Nihon Univ.

Critical Applications

Current	Future
OA System by Japanese	AI Base Management System High Performance D.B. System Multi Vendor Networking

Critical Products

Current	Future
Non-Stop VAX System High Performance Work System High Reliability Disk	High Power Large System Nonstop Machine High Performance High-reliability Disk

Manpower

	FY88	FY92
Sales	7	23
Presales	3	23

Competitors

	FY88	FY92
N-DEC	0.5%	2.3%
Fujitsu	38.2%	29.2%
NEC	26.1%	22.1%
Hitachi	12.3%	12.0%
Univac	2.7%	1.7%
IBM	2.4%	2.3%

Government Industry

Sub Industries

- MITI/MPT Ind.
- MOT/MOC Others Ind.
- Japan Defence Agency Ind.

Market

Industry Total	FY88	FY92
Market Size	2565	4380
DEC NOR	12	105
Market Share	0.47%	2.4%

Target Accounts

Active

MITI
MPT
ETL
Japan Key Tech Center
MOC

Proposed

JDA
MOT
Japan Patent Agency
National Tax Administration Agency
MOF

Critical Applications

Current

Administration System
OA & IS by Japanese
High Performance Document
Processing System

Future

AI Base Administration System
AI Base Resource Management System
High Performance DB System

Critical Products

Current

High Performance VAX System
High Reliability Disk
High Performance Work System

Future

Super Computer
Nonstop VAX System
High Volume/High Reliability Disk

Manpower

	FY88	FY92
Sales	10	53
Presales	4	53

Competitors

	FY88	FY92
N-DEC	0.5%	2.4%
Fujitsu	38.2%	29.2%
NEC	26.1%	22.1%
Hitachi	12.3%	12.0%
Univac	2.7%	1.7%
IBM	2.4%	2.3%

Telecommunications Industry

Sub Industries

- 1st Class Operators
- 2nd Class Operators

Market

Industry Total	FY88	FY92
Market Size	450	760
DEC NOR	30	70
Market Share	6.7	9.2

Target Accounts

Active	Proposed
NTT	DDI
KDD	Teleway Japan
Telecom Japan	Ttnet
NDD	Japan Space Com
NTEC	Space Com

Critical Applications

Current

Future

Network Monitoring and Control System
High Speed Sync MUX-
Science & Lab System
OA (Japanese ALL-IN-1)

Multi-Media Networking
MHS
Large Scale Async/Sync
Sales & Marketing System

Critical Products

Current

Future

Nonstop VAX
Enhanced Telephone System (SCP)
High Performance Database & OLTP
EWS

High Speed Digital Trunk Interface MUX
Application Development

Manpower

FY88

FY92

Sales
Presales

25
9

35
40

Competitors

FY88

FY92

N-DEC
Hitachi
N-IBM
NEC

6.7%
19.4%
12.4%
12.3%

9.2%
15.6%
12.0%
10.4%

Financial Industry

Sub Industries

- Bank
- Brokerage/Investment
- Insurance

Market

Industry Total	FY88	FY92
Market Size	4960	8670
DEC NOR	30	185
Market Share	0.6	2.1

Target Accounts

Active	Proposed
Sumitomo Bank	Bank of Tokyo
Fuji Bank	DKB
Mitsubishi Bank LTCB	IBJ
Nomura Sec.	Mitsui Bank
Nikko Sec.	Daiwa Sec.
Citi Bank	Yamaichi Sec.
Bankers Trust	Tokyo (Casu)
	Nihon (Life)
	Meiji (Life)
	Goldman Sachs

Critical Applications

Current	Future
Trading System (Capital Market)	International CMS
Portfolio Management System (Investment Market)	Forex & EFT
OA (Japanese ALL-IN-1)	Branch Business & Office Systems (Retail Back Office)

Critical Products

Current	Future
Multi-Vendor Networking Protocols Nonstop VAX High Performance Database & OLTP	Large Scale Sync MUX Low Cost Business WS (Industry Oriented) Application Development Tools (4 GLs Problem Oriented Languages, Program Conversion Tools - IBM to DEC)

Manpower

	FY88	FY92
Sales	35	93
Presales	17	185

Competitors

	FY88	FY92
N-DEC	0.6%	2.1%
N-IBM	33.3%	32.2%
Hitachi	18.3%	14.7%
Fujitsu	18.2%	13.9%
N-Univac	13.5%	8.3%

Services Industry

Sub Industries

- Distribution (Trading, Retail & Wholesale)
- Utilities (Elec P&L, Gas & Water)
- Transportation
- Services (Media, Data Services)
- Real Estate
- Other Services

Market

Industry Total	FY88	FY92
Market Size	10660	17300
DEC NOR	57	250
Market Share	0.5%	1.4%

Target Accounts

Active	Proposed
Nichimen Corp. Isetan Dept. Tokyo P&L Tokyo Gas NTS	Mitsui Corp. C. Itho Corp. Seib Seison I. Yokado Daiei Kansai P&L Osaka Gas Chubu P&L JR JAL

Critical Applications

Current	Future
Marketing & Distribution System Merchandising Decision Support System Automated Mapping & Facility Management System EPOS Networking System OA (Japanese ALL-IN-1)	Branch Business & Office System AI-Based Decision Support System Low Cost Business WS Large Scale MIS

Critical Products

Current	Future
Multivendor Networking Protocols Nonstop VAX High Performance Database & OLTP Low Cost Sync MUX	Multivendor Networking Protocols Application Development Tools (4GLs Problem Oriented Languages)

Manpower

	FY88	FY92
Sales	40	125
Presales	13	125

Competitors

	FY88	FY92
N-DEC	0.5%	1.4%
Fujitsu	24.3%	18.6%
Hitachi	17.6%	14.3%
N-IBM	14.8%	14.2%
NEC	2.7%	10.7%

Channels Plan Summary

FY88

	End User	OEM/SCMP	Dist.	Total
SUP VAX	8	-	-	8
BIG VAX	50	16	5	71
MID VAX	22	5	11	38
uVAX	16	26	33	75
WS/PC	5	6	18	19
Total	101	53	57	211

FY92

	End User	OEM/SCMP	Dist.	Total
SUP VAX	141	45	9	195
BIG VAX	60	40	30	130
MID VAX	30	41	13	84
uVAX	40	65	80	185
WS/PC	-	27	40	67
Total	271	218	172	661

NOTES:

- SUP VAX = 8974,8978,POLAR-3,POLAR-4
- BIG VAX = 8550,8600,8650,8700,8800,CAL-E4
- MID VAX = 8250,8350,8530
- CAL-B1,CAL-B2,CAL-E2
- uVAX = uVAX2000,uVAXII,uVAX3500,3600-1,3600-2
- WS = VSII/GPX,VS2000,VS3200,3500
- LYNX

Chapter 4

Latin American/Caribbean Region

Regional Management Summary

The goals and vision of the Latin American/Caribbean Region have not changed dramatically since implementation of the FY88 Long Range Plan.

Strategically, the Region intends to become the number two computer vendor in Latin America while concurrently becoming the number one vendor with respect to quality and professionalism.

The timetable for "going direct" in new Latin American markets is for FY90 to FY92. The relocation of LA/CR Educational Services to Florida was 19 months in advance of the Regional move.

Tactically, our sales organization will be turning a large corner during the next year as we begin to implement an Integrated Industry Market Segment Strategy. The entire Regional organization will be making a major "shift" to accomplish this strategic change.

The complexities and challenges that face LA/CR are enormous. Significant changes in geographic responsibility, blocked access to markets, major internal and District staff relocations, and major strategic shifts are several of the issues that LA/CR management must deal with effectively in the long-term.

Educational Services Regional Management Summary

Educational Services is being asked to play a key role in the development of the skills that will provide this foundation for Regional success. Investments must be carefully chosen to maximize both financial returns and customer benefits. Although a competent staff is being assembled to

meet the challenges, we will look to both Area and Headquarters to supplement needed resources.

Regional Environmental Assessment Summary

The Environmental Assessment for the Latin American/Caribbean Region is presented on a major geography basis which includes Brazil, Mexico and the General International District (GID).

Brazil

Key External Factors

- The current political environment will remain at least until 1990 (Presidential and Congress Terms).
- New Constitution is still being discussed in Congress and will be in effect starting in 1988 with a tendency towards "Center-left."
- The majority government party (PMDB) will continue in power at least until 1990 and is having difficulties due to conflicting ideologies within the party.
- Foreign Debt renegotiations will continue to be a painful process at least within the current government term (1990).
- Economy will have to live with cyclical periods of frozen price/salaries, inflation controls, insufficient savings/investments and a low rate of growth.
- In the short term, the current environment is not seen as favorable for substantial foreign investments.

Eventually, dramatic consequences due to Brazil's inability to manage the foreign debt negotiations (e.g., retaliation of creditors) may reverse the power balance within PMDB, allowing liberal groups within the party to capture more power in the government and impose stronger and more consistent control over the economy with positive impact for investments.

- Informatics Law is in place until 1992.
- Market Reserve is being discussed by Congress for the new Constitution with a tendency to maintain the current rules.
- The present economic environment represents a challenge for the market reserve policy. National computer companies face a severe financial situation (no technological innovation, unacceptable price/performance rates). This situation will present strong pressure to change Informatics Law.
- Computer imports will continue to be a critical issue due to the Balance of Trade.
- The computer market will continue to grow at 20% per year (average rate) from U.S. \$3 billion in FY88, due mainly to the industrial segments need to implement automation, which is the backbone of the Brazilian export program.
 - Largest LA/CR market
 - Fourth Largest GIA market
 - Large growth rate 20%/year

Computer Industry Status

	88	89	90	91	92
Total Market (US\$B)	3.00	3.60	4.30	5.30	6.50
Duties	0.50	0.58	0.71	0.88	1.08
Net Total Market	2.50	3.02	3.59	4.42	5.42
Reserved Market	1.30	1.52	1.89	2.32	2.90
Unreserved Market	1.20	1.50	1.70	2.10	2.52

Market Reserve Segmentation

Market	SEI Classification	Description	DEC Products	Other	Vendors		
Unreserved	6	Mainframes	VAX 8978		4381		
			VAX 8974	IBM	308X		
			VAX 8800		3090		
			VAX 8700	Burroughs	69XX		
			VAX 8550	Fujitsu	M3XX		
			VAX 8530	Honeywell CDC	BULL DP CYBER85X		
Reserved	4	Superminis	VAX 8350	MODDATA	CYBER85X		
			VAX 8250	ELEBRA	VAX 750		
	3		MicroVAX II		ITAUTEC	Formation	
					COBRA	DG	
					ABC	Bull	
	2	Minis		MAUX 2000	TESIS	HP3000	
						COBRA 500	Own Term
						LABO	NIXDORF
	1	PCs		VAXmate	SID	LOGABAX	
						SISCO	DG-LIKE
				EDISA	Fujitsu		
				60 Local IBM/Apple	Mfg. Like		

Government Approval Cycle

SEI Import Quota

- Minister of Finance defines an annual (Calendar Year) import approval quota to SEI (US \$750 million for 1987).

- SEI's import approval quota estimated breakdown:
 - 90% local manufacturers (components, parts, capital equipment, and sub-assemblies)
 - 10% computer vendors that do not manufacture in Brazil (parts for installed base manufactured finished products, and capital equipment)

CACEX

- Government agency in charge of import licenses issuance.
- All companies in Brazil must have an annual import program approved by CACEX at beginning of Calendar Year.
- All imports must have external financing (Resolution 767) in the following periods.
 - From US \$102 thousand up to US \$1 million (FOB) - 180 days
 - From US \$1 million up to US \$3 million (FOB) - 3 years
 - From US \$3 million up to US \$10 million (FOB) - 5 years
 - Above US \$10 million (FOB) - 8 years

Competition

IBM

- 70 years in Brazil
- 1986 gross revenue of US\$ 867 MILLION
- 27% growth (1986/1985)
- 4300 employees
- Largest market share
 - 69% unreserved market
 - 27% total market
- Branches in all major cities
- Manufactures locally (IBM 4341 up to 1980 and 4381)
- Installed base

4341/308X	4381	3090
600	400	50

- Export US\$ 200 million (1986)
- Channels: direct only
- Training
 - Initial complement bundled with system sale
 - Executive training at exclusive site
 - Courses customized to meet customer needs (1/2-5 day sessions)
 - To comply with Informatics law, recently sold training business to Brazilian company
- Strengths
 - Local currency selling/leasing/rental financing model
 - Strong support (H/W, S/W, etc.)
 - Trade-in/used equipment options
 - Local developed S/W applications
 - Present in all industry market segments

- Weaknesses
 - Does not offer a broad range of price/performance products (4381 - manufactured locally and imported 3090's)
 - Product compatibility problems
 - IBM networks solutions are not user transparent and flexible

UNISYS

- Over 60 years in Brazil
- 1986 gross revenue US\$ 232 million
- 23% growth (1986/1985)
- 2366 employees
- Second largest market share
 - 21% unreserved market
 - 8% total market
- Third largest UNISYS subsidiary in the world
- Branches in all major cities
- Manufactures locally (B69XX and A9 family)
- Will invest US\$ 7.5 million in 5th generation S/W
- Installed base: official data not available
 - Estimate

B69XX	A9
400	200
- Export US\$ 50 million (1986)
- Channels: direct only
- Strengths
 - Local currency selling/leasing/rental financing model
 - Trade-in/use equipment options
 - Present in all industry market segments
- Weakness
 - Centralized solutions only (no networks)

Market Segmentation

Discrete Manufacturing	
Automotive/Transportation	7.2%
Aerospace	0.3%
Electronics	1.5%
General Manufacturing	7.0%
Totals	16.0%

(continued)

Process Manufacturing	
Chemical and Pharmaceutical	3.3%
Pulp and Paper	0.4%
Food and Beverage	6.8%
Siderurgy/Mining/Metallurgy	3.3%
	Totals
	13.8%
Services	
Transportation	0.9%
Distribution	7.5%
	Totals
	10.5%
Banking	
	10.5%
Commerce (Retail, Department Stores, Services)	8.3%
	Grand Total
	57.0%
Government	
	8.0%
Universities	4.0%
Process Manufacturing	
Oil and Gas	9.1%
Sid/Min/Metal	3.9%
Services	
Transportation	1.6%
Distribution	2.3%
Power/Electricity	3.3%
Banking	
	5.0%
Telecommunications	5.8%
	TOTAL
	43.0%

Mexico

Key External Factors

Politics/Economics

Mexico is the 13th largest country in the world, with the 14th largest population. Its current inflation rate is 130 percent, and frequent devaluation creates uncertainty.

Mexico has enjoyed 18 years of political stability. With an upcoming presidential election in Q4 of FY88, the challenges are to reduce inflation, increase production, and service foreign debt.

Computer Industry Status

The computer market is managed by a government agency called SECOFI and is subject to the following regulations:

- Market reserve for personal computers
- Mid-range vendors must manufacture in Mexico
- Mainframes may be imported if mid-range and other products manufactured in Mexico are exported. Exports must exceed imports as agreed with the government.
- Computer vendors manufacturing in Mexico must agree to other terms as well as employment growth goals (local vendor development, transfer, research and development and employment growth goals).

Vertical computer markets are evolving in Mexico, and the overall computer market is growing at approximately 12 percent a year.

Competition

Company	Market Share
IBM	40%
UNISYS	26%
Hewlett Packard	12%
Total	78%

Market Segmentation

	Market Size	% of Total
Manufacturing	255	51.7%
Services	96	19.5%
Finance/Banking	83	16.8%
Government	29	5.9%
Education	15	3.1%
Health	15	0.0%
Total Market Size	493	100.0%

General International District (GID)

The General International District is composed of 15 countries *plus*:

- Argentina
- Bermuda
- Chile
- Columbia
- Ecuador

- India
- Pakistan
- Panama
- Peru
- Trinidad
- Venezuela
- Uruguay
- Barbados
- Jamaica
- Other Islands in the Caribbean

Key External Factors

Politics/Economics

The overall economical and political conditions are expected to remain stable throughout the GID territory as a whole, although national foreign debt owned by several GID countries could be a threat to their stability.

Computer Industry Status

The computer market available to Digital throughout GID is expected to grow between 5% and 10% per year. The Digital market share is expected to increase from 9% to 15% during the next five years.

LA/CR will target Argentina and Venezuela to open a new district.

Regional Objectives/Strategies

The objectives and strategies of LA/CR have not changed dramatically since implementation of the FY88 plan. The vision of Educational Services is to establish training delivery programs in all districts which add value to Digital's image and financial posture. Over the past three years the resources and programs have been introduced into all LA/CR subsidiaries.

Educational Services objectives and strategies have been defined to layer with Regional plans. The format for presentation will focus on Regional issues and country-specific needs.

Commence Industry Market Segment Penetration

We will implement integrated training architecture to industry focus selected by Region: manufacturing, finance, government, telecommunications and utilities.

By coordinating industry training for sales personnel, we will aggressively support CMP/OEM training to complement current offerings.

Begin Add-On/Upgrade Product Strategy

We will support a thorough program for Sales Rep training to recognize and configure upgrades.

Develop and Expand Indirect Channels of Distribution

Channels will be developed through licensing and OEM Agreements, support contracts for resellers and distributor, and, in Spain, an SPI bundling strategy.

Relocate LA/CR Regional Headquarters

Educational Services is the vanguard group in the relocation of Regional headquarters, and will co-host and manage the facility during the transition of other groups. Training programs will be developed to support local hires.

Quality Professional People Resources

In addition to restaffing Regional headquarters during the transition to Florida, we plan to implement training programs to focus on sales and account management skills, and expand management products and sources.

An expanded Executive Training Program will include CEOs and Directors of all key LA/CR customers. A Management Training Advisory Board will be established, and the position of Dedicated Internal Training Manager will be created in FY90.

Local Language Applications

Along with establishing Educational Services presence in Local Engineering Groups, we will translate course materials to Spanish and Portuguese.

Corporate Accounts

Educational Services participation on the Florida-based corporate account team, and will implement large bid group training at Headquarters and District levels. We will also respond to all large bids with sufficient training to meet customers needs.

Country-Specific Objectives/Strategies

Brazil

We will help Digital become one of the top three computer vendors within five years through the dissemination of VAX/VMS and Digital network architectures in both reserved and unreserved markets. The VMS curriculum will continue as that primary vehicle to support country programs.

We will supplement traditional course offerings with programs to focus Digital product strengths. In FY88, we will focus on database management. In FY89, the database focus will be supplemented by networks and communications, system analysis, project management, and applications: these four subjects will form the basis of the FY90 offering, along with applications. Applications will continue to be the focus in FY91 and 92.

In addition, we will pursue cooperative efforts with local consultants for generic certificate training, and we plan to use CIM as a pilot to support an industry market focus. Personalized Training Plans will leverage comprehensive program sales.

Mexico

Our goal is to become the number two computer vendor in Mexico within five years. Toward this goal, we will utilize customers' VMS curriculum as a cash cow, and increase the use of Personalized Training Plans to leverage comprehensive programs sales.

We will also develop a bundling program for new DEC customers, and assemble a cadre of Spanish-speaking instructors who will be used throughout Latin American and Puerto Rico.

Argentina/Venezuela

Here we plan to become the number two vendor within five years. We will license distributors for Educational Services product to develop local resources, and develop a cross-functional training strategy appropriate for direct presence.

Chapter 5 South Pacific Region

Regional Management Summary

Digital will continue to grow faster than the market; the key parameters are:

	FY88	FY92
CERT (US\$ Mil)	313.0	769.0
Revenue (US\$ Mil)	280.0	684.0
SCM (%)	41.4	44.4
Number of Employees	1788.0	2487.0
Market Share (%)	4.9	6.5

Sydney facilities will move to DEC Park in FY90 to accommodate this growth.

Our market strategies are to invest in and expand the Government, Finance, Distribution and Services markets, while maintaining our position in the Manufacturing, Mining, Construction and Health markets. We also intend to maintain our investment in the Education market to ensure our future influence.

Current and anticipated revenues distribution by industry is (by percent of NOR) as follows.

	FY88	FY92
Mining	2.5	2.6
Education	6.8	3.8
Government	41.1	36.2
Manufacturing	20.7	16.8
Distribution	6.4	9.1
Mining	4.3	2.6
Construction	1.4	0.9
Finance	9.6	20.3
Services	7.1	7.6

The thrust into these markets will be driven by: our strengths in network and office automation, market specific solutions complemented by strategic CMPs, the introduction of a new high-end system, and targeting large annuity accounts by direct sales supported by presales at a ratio of 1:1.

There are several key issues to be addressed as we pursue our goals. We must remember that government business is dependent on Digital's ability to meet local R&D and Australian export requirements. We must concentrate on solution delivery management, develop skills in selling network services, develop the organisation, develop tools and training to successfully sell high end systems, and concentrate on our low-end market strategy.

Educational Services Regional Management Summary

Educational Services will continue to grow at approximately double the rate for the overall market. The IDC forecast is for a CAGR of 17.7 %, whereas the Digital Educational Services LRP growth projection is 35 % plus.

Key strategies for Educational Services are:

1. Customer Satisfaction
2. Decentralised Customer Training
3. Consolidated Employee Training Centres
4. Major Bids - Educational Services' Participation
5. Educational Technology Group
6. Strategic Training Needs Analysis
7. Customised Training Programs
8. Local Course Development
9. Generic Training
10. Instructor Development

The DEC Park facility, to be opened in FY90, will include a consolidated Employee Training Centre, which will cater to all Sales, SWS, Field Service and Management Training. The Centre will also be the focal point for all Pacific-rim employee training, in line with our Partnership Agreement with the Australian Government.

Customer Training activities will continue to be decentralised to meet our customer requirements. Additional resources will continue to be deployed in the capital city branches, with particularly strong growth planned for Canberra and Melbourne.

Regional Environmental Assessment Summary

Overall Region

Key External Factors

The Region is made up of four countries.

	Area	Population	GDP (1986) US Dir	Exchange Rate
	(000 SQKM)	(MILLION)	(BILLION)	(US\$1)
1. Australia	7,682	16.0	172.0	0.71
2. New Zealand	269	3.3	27.0	0.62
3. Papua New Guinea	463	3.8	2.6	1.10
4. Fiji	18	0.7	1.3	0.77

Approximately 86% of the SPR's revenue is generated in Australia, 13% in New Zealand, and 1% from Fiji.

Summary of Impact to Digital

If the Australian Government Corporate Citizen programme is instituted in its present form, Digital Australia will require A\$45 million R&D Expenditure and export A\$179 million by FY92.

As result of a high real interest rate, the market will emphasize the payback of the information system and asset management applications.

The implication of potential privatisation of public enterprise in Australia needs to be monitored, and may result in significant opportunities to the Information Systems market and Digital.

Series of takeovers and rationalisation across a spectrum of industries has resulted in increased significance of major players and concentration of buying power. This requires DEC to emphasize its capabilities to deal with major accounts and account control.

The corporatization of Government trading activities in New Zealand to State Owned Enterprise (SOE) is causing changes in the needs and mindset of the management in those operations. The operations are now looking for applications and solutions to help them manage profitability and productivity.

The deregulation of New Zealand banking will result in increased demand similar to that experienced in Australia.

The market trend is toward a multivendor Hardware- and Software-solution environment. There is a need to link the existing PCs and workstations into a total system environment. This presents a major opportunity to capitalize on Digital's network strength.

SPR will need to strive to improve Solutions Project Management skills, as well as Industry and Technology skills. A shortage of adequate sales support and post-sales consulting skills can be a major constraint on our growth. It is a major differentiating factor for Digital.

The Sales Support to Sales ratios need to rise very quickly. A ratio of 2:1 is necessary for the Finance and Distribution markets, 1.5:1 for Government and 1:1 for Manufacturing. The average ratio should be 1:1.

Field Service, Software Services and the Hardware business will have to continuously review and reposition their discounts, allowances and the packaging of their services for the Education market to ensure that our defensive market-share goal is achieved.

Strategic OEM and CMP recruitment is crucial to provide the solutions that the markets demand and to maximise Digital's revenues.

UNIX support will be necessary, and UNIX will be positioned as a desirable, secondary alternate Operating System rather than a last resort offering.

Computer Industry Status

The computer market is undergoing a series of transitions.

Away From	Towards
<ul style="list-style-type: none">• Proprietary architecture and operating systems unique to individual system vendors.• Single vendor solutions environment.• Natural monopolies by vendors within their installed base of systems.• Multiuser computer and terminal architecture.• Moderate pace of innovation and rate of improvement in price performance.	<ul style="list-style-type: none">• Standard architectures, operating systems and interfaces, e.g., UNIX popularity.• Multivendor hardware/software solutions environment.• Increased competition among vendors.• Systems of PC workstations linked via networks to multiple servers.• Accelerated pace of innovation and rapid decrease in price per unit of performance.

The new generation of information systems will lead to user attitude change, with the following trends emerging.

- Information systems' function will become a normal part of every business unit and not just renegade to the DP/MIS department.
- Increasing reliance on smaller systems with improved capabilities and flexibility.
- Merging of networks of systems and personal computing into a total corporate systems environment.
- Emergence of a single data structure for the enterprise which is recognised as a major asset.
- A much closer coupling of electronic information systems and human nervous system (e.g., graphics, sound and optical storage media).

The company that can support and advise the market on effective use of the new technology to improve its competitive position will gain increased market share.

The overall SPR Information Systems' market is projected to grow around 17% per annum over the next 5 years. Breakdown of the categories is as follows:

	1986	1992 (in A\$ millions)	Compound Growth
Hardware	3374	7551	16.0
Packages	654	1604	17.8
Processing	263	525	13.9
Education	78	189	17.7
Support	348	1075	22.5
Communications	1643	5176	22.8
Total	6360	16120	17.0

The market will expect closer long-term business partnership relations, and support services will increase as a percentage of information technology expenditure.

The issues confronting the users in the 80s are:

- Information Systems Strategic Planning
- Getting Payback from Information System Investments
- Organising Impacts of New Generation Systems
- Managing and User-Computing
- Security and Privacy

Competition

Company	(Calendar Year)					Employees	
	Revenue (in A\$ millions)			85/87	84	85	86
	85	86	87(F)				
IBM	904	1025	1200	15	3121	3434	3700
UNISYS	295	297	360	10	930	990	1060
DEC	205	251	334	28	950	1100	1250
Wang	168	218	265	26	900	1185	1187
Fujitsu	117	185	260	49	490	536	690
ICL	134	151	170	13	885	822	785
HP	126	145	165	15	455	639	656
NCR	108	135	160	22	1085	1061	1050
Apple	72	120	150	45	61	80	98
Olive	93	117	130	18	485	529	576

Competitor Comparison

Attack Mode	Digital	IBM
Product	High	Medium
PR	High	High +
Advertising	Medium	High +
Account Control	Medium	High +

Competitive Threats

IBM is increasingly our No. 1 competitor. It has a huge Financial Industry share (62%), along with a supportive image, high public profile, an OLTP reputation and the perceived ownership of PC standards. It is countering our compatibility edge with the 9370, the promise of SAA and has reorganised along industry lines.

UNISYS has an uncertain strength following the merger; there are doubts in the Sperry base. However, it continues to have a strong government presence, and an aggressive marketing/advertising program. It is a DEC watcher, and can offer a full range of industry specific products.

Wang is perceived to be strong in OA. It stresses the local manufacturing content. Its Australian marketing strength is presently in doubt.

Fujitsu has a quality image, with strong growth patterns, IBM compatibility, innovative dealing practices, and disks (for leverage).

NEC also has a quality image. It has a strategic relationship with an Australian software house, strong communication ability, and strong base and recognition in the PC base.

Other competitors of note include Sun and Apollo in the workstation market, NCR with its UNIX application, HP with its UNIX and installed base and Wang with aggressive selling.

Educational Services' Competition

The major sources of competition for Digital Educational Services are varied in terms of both market position and quality/pricing. There are many organisations offering Digital-related training at the low end of the market, which is very price-sensitive. Competition tends to consist of small training companies and some Digital CMPs.

In the VMS area, major competition comes from the Computer Power Group, which has recently expanded its training activity through the acquisition of both MTE and Prologic.

Many Colleges of Advanced Education and Schools of Technical and Further Education offer short courses on their Digital systems in addition to their Degree and Diploma courses.

Currently there is very little competition in the SPI and CBT areas (for Digital-specific courses), although DELTAK is likely to become a much more active competitor. We also believe that Computer Power has plans for the development of CBT and Video courses.

Australia

Key External Factors

Population

Growth is projected to reach 19.7 million by 2001, reflecting a higher level of immigration.

Immigration is the major contributor to growth in major cities, and immigrants settle in disproportionate numbers in New South Wales and Western Australia.

New South Wales and Victoria will continue to remain the largest markets by size.

The culture of Australia shares many of the features of British and American cultures.

Education

Australia has a higher level of education than that of South East Asia Regions. An integral part of government policy in renewing Australia's competitiveness in the world market is the upgrading of skill of the Australian workforce by making the education system more relevant to needs of industries. The FY87/88 Federal Budget contains a wholesale reshaping of Australia's education and training system aimed at accelerating the nation's skill formation performance.

Economics

Deterioration in terms of trade happened primarily because of the weakness of minerals, metal and agricultural demands. This resulted in the devaluation of A\$ by 40% over the last 5 years. The effects of devaluation are:

- Import substitution by local manufacturing
- Tourism travel to Australia
- Increased level of export

Despite a strong improvement in trade deficit, the improvements in current account deficit remain slow due to increased debt servicing requirements.

Continuing, though improved, current account deficit will continue to put downwards pressure on A\$, which is projected to decline gradually to .65 to US\$1 over the next 5 years.

The interest rate, both in real terms and compared with overseas, will remain high. The real interest rate is expected to remain around the 5% range.

The inflation rate is high but contained. It is expected to fall from the current level of just under 10% to an underlying rate of 5%. This is, however, very dependent on the success of the wages accord and wages policy.

Politics

The current Labour government is now in its third term.

There is increased recognition of the chronic current account deficit problem, and there is increased emphasis on dealing with the competitiveness of Australia.

The current government policy toward industry is to promote import replacement and encouragement of technology (e.g., Corporate Citizen programmes of 5% of revenue in local R&D and 20% of revenue in value-added exports, 150% tax incentive in R&D expenditures, and an education policy geared toward developing relevant skills to support industries).

The wages policy is represented by and dependent of the wage accord. The current Accord III features:

- A flat, first-tier component to be arbitrated nationally.
- A 4%, second-tier and 3% superannuation coverage to be brought in over a maximum of 2 years. New restructuring and efficiency guidelines designed to increase productivity and, in theory, pay for the second-tier pay rises.

Fiscal policy is reflected by the trilogy of constraints. This involves:

- No increase in proportion of tax to GDP.
- No increase of the ratio of deficit to GDP for the rest of the government's term. The government has brought in a balanced budget for 87/88, they remain committed to this process.
- A reduction in the rate of growth of government expenditure to below the rate of growth in GDP.

To date, the government remains committed to the trilogy.

Government control is moving increasingly to deregulation. Banking was deregulated in 1984, deregulation of 2 domestic airlines is likely, as is the potential privatisation of government enterprises (e.g., Telecom, Qantas, Commonwealth Bank, etc.).

Private investment in plants and equipment average 8.3% of GDP; it has been very weak in the past four years and sharply declined by 10.9% in FY87. With an increase in Australia's competitiveness and projected lowering of interest rates, the investment in plant and equipment is projected at an average of 3% per annum.

There are a significant amount of take-overs, amalgamations and rationalisations within industries (e.g., Brewery, Media, White Goods Manufacturing, Chemical Process, etc.).

Economics

Key Economic Indicators (Source BI Shrapnel - May, 87)

Year Ended June	Percentage Change								
	1983	1984	1985	1986	1987	1988	1989	1990	1991
GDP	-1.10	5.40	4.40	3.60	1.40	3.90	3.20	3.40	1.80
CPI	11.50	6.80	4.30	8.40	9.20	6.60	5.00	5.00	5.00
Interest (90 Days Bill)	13.60	12.80	16.50	14.80	5.00	12.50	10.50	9.50	9.50
Private Invest. Shared Equipment	-14.60	1.20	-3.00	-3.70	-10.90	2.20	3.20	4.20	2.00
Exchange Rate (June)	.87	.87	.67	.68	.69	.67	.67	.67	.66

New Zealand

Key External Factors

Demographics

There has been very little population growth in New Zealand since the mid 70s due to migrant outflow. Sixty-eight percent of the population lives in main urban areas and this has been stable since 1987.

Foreign Exchange

Foreign exchange controls were completely abolished in Oct./Nov. 1984 and the NZ dollar was floated on 4th March 1985.

New Zealand has large overseas debt and a current account deficit at 7.4% GDP. The current account deficit is expected to be contained but will continue to put downwards pressure on the NZ dollar. This is offset by the relative high interest rate of approximately 20%.

Politics

The Labour government under Mr. Longe was returned for a second term on August 15, 1987. The major policy changes have been:

- Introduction of Goods and Service Tax (GST) of uniform rate of 10% effective from 1st October 1986. Exempted are exports, housing and financial services.
- Company income tax raised from 45% to 48% corresponding with a reduction of personal tax and full imputation for dividends from 1988/89.

Government trading activities were corporatised from 1st April 1987. Nine State-owned enterprise (SOE) corporations were established to transition former departments such as New Zealand Post, Coal Corporation, Land Corp, Electricity Corps, Railway Corp, etc. These corporations now have boards headed by private sector businessmen, though the ministers are still required to answer parliamentary questions on SOE performances.

Following the opening of the banking sector to other than the traditional four trading banks, eight new banking licenses were granted by the Reserve Bank, of which seven were to overseas institutions.

Fiscal Policy

For the first time in 35 years, New Zealand is planning a budget surplus for 1987/88. This is surplus assisted by the sale of assets namely New Zealand Steel, Development Finance Corporation, Petro Corp and Air New Zealand.

Economics

Key Economic Indicators (source: *The Economist*)

	1983	1984	1985	1986	1987
Real GDP Growth %	0.60	2.70	5.60	2.20	2.40
Current a/c deficit (US\$ bil)	-1.50	-1.00	-1.50	-1.50	-1.10
CPI	15.30	5.20	8.60	15.20*	14.60
Exchange rate (NZ\$1=US)	.73	.66	.53	.52	.53

* 6% caused by one off introduction of GST

Papua New Guinea

Key External Factors

The government is slowly becoming more sophisticated. The country has extensive mineral reserves, particularly in gold, which the government is keen to develop. Digital has a low presence in Papua New Guinea, but this area could represent an opportunity for growth both in the government and mining sector.

Fiji

Key External Factors

The economy is based on agriculture and tourism.

Regional Objectives/Strategies

Financial Performance Objectives

Our goal is to achieve a business model consistent with the GIA model. By FY92, we plan to achieve an SCM of 44%, with 8 weeks of system inventory on hand and a DSO of 60 days.

Strategies

We will run the company as one business, and plan and measure our portfolio as a single management team. We will reduce the break-even point of business, lowering operating cost.

To this end, we will develop a regional business model differentiating variable and fixed costs. Operational productivity will be driven through development of integrated operational systems (e.g., Bis committee), development of standard operating procedures, and extension of the time-in-job profile.

Other plans include the introduction of automated productivity systems, improvement of predictability through establishment of contingency plans, and removal of skew. Weekly review of the business will help achieve these ends.

Customer Satisfaction Objectives

We intend to be recognised by independent surveys as the leader in total customer service.

Strategies

We will create an organization-wide emphasis on customer Level of Service (LOS), focusing on the customer interface point. This institutionalised customer orientation will include meeting customer requested dates, higher QC measurement standards, and training in LOS method.

Service awards will be instituted, and we will review and improve call handling. We will ensure that our service model is correct, and that customer satisfaction goals are common to all and override other goals.

We will define and deliver LOS by market, setting standards promoting it accordingly. A solution to the offset problem will be actively pursued. OEMs will be managed according to the LOS model. We will implement channel strategy in the green and white spaces, to enable direct sales persons to concentrate on large annuity accounts.

Employee Satisfaction Objectives

Our aim is to be the most attractive computer industry employer in the region.

Strategies

We will recruit from tertiary institutes, and work with tertiary institutes on course profiles. We will offer a competitive remuneration programme, and P&Ps consistent with community standards. To develop our own employees, we will do regular employee sensing, and encourage and promote innovative ideas from employees.

Business Growth Objectives

To be perceived as market leader in Digital's area of strength is our primary goal, along with improving SPR's share of market.

Strategies

To define the network concept to the market will be key, as well as owning the customer's network through network management. We will establish integrated market plans to focus and direct cross-functional resources to targeted markets and customers.

To improve our market intelligence, we will establish internal feedback systems and data/information bases: MASIS, Won/Lost Analysis, Cost of Ownership, Competition Analysis.

Solutions Availability Objectives

We will carry the focus of integrated solutions throughout the total organisation.

Strategies

As we define the level of service by market, we will integrate channels strategy with solutions strategy. We will plan our product/service set so it provides integrated solutions, and educate the sales force so that they sell this set as an integrated solution.

The sales force will be measured and rewarded on the basis of their success in promoting integrated solutions sales. Increasing presale-to-sales representative ratio to 1:1 will further improve our ability to sell solutions.

We will establish a portfolio of products to meet special needs, using CSS and SWS as integral part of marketing strategy and recruiting strategic and competitive OEMs.

Productivity Objectives

Revenue per person and SCM per person will be improved to 2 times the FY87 levels by FY92.

Strategies

We will implement the KRA (Key Result Areas) and JP&R processes, to ensure that resources are focused on SPR's goals. Integrated operating systems (including the BIS committee) will be developed.

The sales yield will be improved by strengthening sales support, the effective execution of channels strategy, an increased focus on large annuity accounts, and account-focused integrated information systems.

We will establish programmes to improve the quality of business throughout; our goal: do everything once, correctly. We will implement career planning and employee development programmes which encourage cross-functional pollination.

Corporate Image Objectives

Our continuing goal is to be perceived as a good corporate citizen and be recognised as professional in all our business dealings.

Strategies

With the help of Corporate GIA's input, we will develop a public image statement and strategy incorporating sponsorship activities. We will communicate a consistent image and message in advertisements, newsletters, releases, and other media.

Corporate image will be enhanced and maintained by our participation in high visibility activities and the proper and timely payment of taxes. Also of value will be our efforts to stay ahead of the offset curve, and to maintain a focus on corporate culture while managing change.

Corporate Contribution Objectives

We will continually seek to increase our strategic significance to the corporation.

Strategies

Wherever possible, we will seek to export service technology and to expand our training capability for the Pacific Basin. We will develop the New Zealand subsidiary so it can be a more autonomous organization. We will also concentrate on growing SPR's local engineering and purchasing capabilities.

Regional Goal Summary

Overall Goal Summary and Narrative

	FY86 Act.	FY87 Act.	FY88 BOD	FY89	FY90	FY91	FY92
Overall Regional Goals							
• Business (US\$M)							
- NOR	175.7	212.3	279.5	325.5	444.2	551.4	684.2
- SCM (%)	34.7	36.5	42.1	42.8	43.5	44.0	44.4
- Cust.Sat. Rating		6.6	(show continuing improvement)				
Macro Quantitative Goals							
• Business (US\$'000)							
- NOR (\$)	1512	2100	2996	4100	5200	6800	8800
- SCM (\$)	312	107	839	1300	2000	2800	3800
- Cust.Sat. Rating (Sales survey)	6.4	7.0	7.2	7.2	7.3	7.3	7.4
- QA Class	85	89	90	90	91	91	92
• Market							
- Computer Index	2.2	2.3	2.4	2.7	2.9	3.1	3.4
- CAGR Computer Ind.	19	16	16	17	17	17	17
- CAGR for Digital	37%	30%	34%	26%	26%	26%	26%
- Digital Share %	4.0	4.5	4.9	5.2	5.6	6.1	6.5
- IBM Share %	18	18	18	18	18	18	18
- Digital Ranking	3	3	2	2	2	2	2
• Employees							
- Customer	15	21	25	34	40	48	55
- Internal	13	14	19	25	32	36	39
- Total SPR	28	35	44	59	72	84	94
- Direct/Indirect Ratio	2.4	2.9	3.4	3.5	3.5	3.4	3.5
• Productivity							
- NOR/Employee (total)	100	100	120	121	130	142	160
- SCM/Employee (total)	20	5	34	38	50	58	69

GIA Educational Services Regional LRP Financial Summary

	Act. FY86	Act. FY87	Fcst. FY88	< -- -- FY89	Nov. Targets -- -- -- FY90	-- -- -- FY91	> FY92
US Dollars							
• MLP (US\$M) Subsidiary/Region	129.2	176.3	230.3	291.8	367.6	456.3	566.2
• NOR Total	175.7	212.3	279.8	352.5	444.2	551.4	684.2
- Systems	124.7	149.7	189.8	239.1	301.3	374.0	464.1
- Services	51.0	62.6	90.0	113.4	142.9	177.3	220.1
- Educational Services	1.5	2.1	3.0	4.1	5.2	6.8	8.8
• NOR Growth (%)	7	21	32	26	26	24	24
- Systems	n/a	20	27	26	26	24	24
- Services	n/a	23	44	26	26	24	24
- Educational Services	n/a	40	43	37	27	24	29
• SCM Total (%)	34.7	36.5	41.4	42.8	43.5	44.0	44.4
- Systems	35.5	39.2	42.6	44.3	45.0	45.5	46
- Services	32.7	30.2	38.9	39.7	40.2	40.7	41.2
- Education	20.6	5.1	28.0	31.7	38.5	41.2	43.2
Local Currency							
• LC (\$ Assumption)	0.69	0.64	0.67	0.67	0.67	0.66	0.65
• NOR (LC) (Edu Services)	2.3	3.1	4.5	6.1	7.8	10.3	13.5
• NOR Growth (%)	n/a	35	45	36	28	32	31
• Spending							
- (LC) (Edu Services)	1.8	2.9	3.4	4.2	4.8	6.2	7.7
- (%)	n/a	61	1723	14	29	24	
Sales Metrics (\$ US)							
• CERTS							
- Systems	130.4	163.1	229.2	280.5	353.5	438.7	544.4
- F/S	0	72.6	80.1	95.5	120.3	149.4	185.3
- SWS	0	9.7	12.7	15.9	20.1	24.9	30.9
- Edu Services	0	2.2	3.3	4.2	5.2	6.5	8.1
- Total	130.4	247.6	325.3	396.1	499.1	619.5	768.8
• Yield							
- SYS Dir Sales	1433	1217	1333	1431	1585	1727	1877

(continued)

	Act. FY86	Act. FY87	Fcst. FY88	< - - - FY89	Nov. Targets FY90	- - - FY91	> FY92
- SYS Total Dir	1011	858	906	944	1004	1009	1035
- Total SPR	1011	1238	1196	1246	1331	1347	1390
• COB							
- Systems	10.3	11.7	11.1	10.7	10.7	10.9	11.2
Productivity							
• NOR/Employee	134	140	156	183	212	241	275
• SCM/Employee	46	51	65	78	92	106	122
NB - Yield (Excluding SPR)							
• SYS Total Dir.	1124	983	1032	1075	1148	1202	1251
• Total SPR	1124	1407	1350	1405	1508	1588	16764

Manpower - End of Year

	FY86 Act.	FY87 Act.	FY88 BOD	FY89	FY90	FY91	FY92
Educational Services Customer Headcount							
Direct	11	16	20	26	31	37	43
Indirect	4	5	5	8	9	11	12
Ratio	2.8	3.2	4.0	3.3	3.4	3.4	3.6
Educational Services Total Headcount							
Direct	20	26	34	46	56	65	73
Indirect	8	9	10	13	16	19	21
Ratio	2.4	2.9	3.4	3.5	3.5	3.4	3.5

Appendix Glossary of Terms

ACM	Area Contribution Margin
ACT	Application Center for Technology
AI	Artificial Intelligence
BIS Committee	Business Information System Committee
BOD	Board of Directors (budget)
CAD	Computer-Aided Design
CAI	Computer-Aided Instruction
CASE	Computer-Aided Software Engineering
CBT	Computer-Based Training
CERTS	Certifications, Certified Bookings
CIM	Computer-Integrated Manufacturing
COB	Cost of Business
CMP	Cooperative Marketing Partner
CSS	Computer Special System
DSO	Days Sales Outstanding
DP/MIS	Data Processing/Management Information System
EDI	Electronic Distributed Information
E/S	Educational Services
ETG	Educational Technology Group
GDP	Gross Domestic Product (CAR & SPR)
GID	General International District
GNP	Gross National Product
IS	Information Systems
JP&R	Job Performance and Review
KANJI	Japanese Language
KE	Knowledge Engineering
LL	Lecture Lab

LOS	Level of Service
MASIS	Marketing and Sales Information System
MLP	Maynard List Price
NAC	Networks and Communications
NIC	Newly Industrialized Countries
NOR	Net Operating Revenue
OA	Office Automation
OEM	Original Equipment Manufacturer
OLTP	On-Line Transaction Processing
OSI	Open System Interconnection
PCSA	Personal Computer System Architecture
PLOO2	Self-Paced Training Products
PLOO3	Instructor-Led Training Products
PSG	Peripherals and Supplies Group
QA	Quality Assurance (Class Scores)
QC	Quality Control
R&D	Research and Development
RCM	Regional Contribution Margin
ROI	Return on Investment
SCM	Service Contribution Margin
SPI	Self-Paced Instruction
SWS	Software Services

digital™