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Selecting a telecommunications system; Consulting services practice aid, 92-7

American Institute of Certified Public Accountants. Management Consulting Services Division

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AICPA

Technical Consulting

**CONSULTING SERVICES
PRACTICE AID 92-7**

***Selecting a
Telecommunications
System***

Management Consulting Services Division

AMERICAN

INSTITUTE OF

CERTIFIED

PUBLIC

ACCOUNTANTS

NOTICE TO READERS

This practice aid will be integrated into a manual for consulting services issued by the AICPA Management Consulting Services Division and is numbered for that purpose. It is designed as educational and reference material for Institute members and others who provide *consulting services* as defined in the Statement on Standards for Consulting Services issued by the AICPA. It does not establish standards or preferred practices.

Consulting Services Practice Aids continue the series of MAS Practice Aids. The change in the numbering system of these series reflects the change of the division name from Management Advisory Services (MAS) to Management Consulting Services (MCS), rather than the discontinuing of any publications in a series.

Various members of the 1990-1991 AICPA MAS Technical and Industry Consulting Practices Subcommittee were involved in the preparation of this practice aid. The members of the subcommittee are listed below.

Edward J. Dupke, *Chairman*
Elizabeth S. Hager
Richard J. Jagusztyn
Kevin M. Keliher
Sara S. Lankford

Jay H. Loevy
Julian I. Rosenberg
Ronald L. Seigneur
Mark R. Thaw

The subcommittee gratefully acknowledges the contribution made to the development of this practice aid by former subcommittee member Ira H. Somach, the principal author. Mr. Somach devoted significant time and effort to this project after his subcommittee service was completed.

John F. Hudson, *Vice President*
Technical Standards and Services

Monte N. Kaplan, *Technical Manager*
Management Consulting Services

Steven E. Sacks, *Technical Manager*
Management Consulting Services

William J. Moran, *Editor/Coordinator*
Management Consulting Services

AICPA

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PREFACE

This practice aid is one in a series intended to assist practitioners in applying their knowledge of organizational functions and technical disciplines in the course of providing consulting services. Although these practice aids often deal with aspects of consulting services knowledge in the context of a consulting engagement, they are also intended to be useful to practitioners who provide advice on the same subjects in the form of a consultation. Consulting services engagements and consultations are defined in the Statement on Standards for Consulting Services (SSCS), *Consulting Services: Definitions and Standards*, issued by the AICPA. The SSCS appears in appendix 44/A of this practice aid.

This series of technical consulting practice aids should be particularly helpful to practitioners who use the expertise of others while remaining responsible for the work performed. It may also prove useful to members in industry and government in providing advice and assistance to management.

Technical consulting practice aids do not purport to include everything a practitioner needs to know or do to undertake a specific type of service. Furthermore, engagement circumstances differ and therefore the practitioner's professional judgment may cause him or her to conclude that an approach described in a particular practice aid is inappropriate.

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44/100

SELECTING A TELECOMMUNICATIONS SYSTEM**44/105 SCOPE OF THIS PRACTICE AID**

.01 A telecommunications system is a critical element of a business. It determines how a business communicates with the outside world and within the organization. Telecommunications equipment and services have become more complicated and the telecommunications marketplace has become increasingly competitive since the divestiture of American Telephone & Telegraph (AT&T) in the 1980s. Consequently, small and medium-size firms are seeking assistance in selecting telecommunications systems. Many clients recognize that CPA practitioners possess the analytical skill and objectivity needed to select a telecommunications system.

.02 This practice aid is designed to help practitioners assist clients in selecting, negotiating contracts for, and installing telecommunications systems. It describes how practitioners can approach such an engagement. The telecommunications system discussed in this practice aid is called a *key* or *multiline* system. A key system is the smaller of two major office systems. It has between five and seventy-five telephone handsets connected to a host system. A key system usually is sold as a set package without many separate options. Many common business options, such as call forwarding and conference calling, are standard and do not allow for significant customization. Several key systems, however, are available. They vary in the features offered and in their expansion potential. The larger of the two major office systems is the private branch exchange (PBX). Selecting a PBX requires a different approach.

44/110 TYPICAL ENGAGEMENTS

.01 Typical engagement opportunities arise from some of the following client situations:

.02 *Business growth.* The expansion of business may result in a need to improve telecommunications system capabilities. The system is often the lifeline of a business. When it becomes overloaded, the system must be enhanced or replaced. Unlike many other automated business systems, telecommunications is expensive, as well as difficult to change. A business owner will change the telecommunications system only when absolutely necessary. However, expansion of the existing telecommunications system or the addition of a new system is the first thing a company should consider if a new division or branch office is opening.

.03 *System obsolescence.* A business's telecommunications system may become obsolescent and lack important features. An inadequate system can prevent a company

from meeting its clients' needs and may add to the cost of providing customer service.

.04 *Excessive operation and maintenance costs.* Changes in technology have made it feasible for businesses to replace telecommunications systems installed several years ago with more efficient and less costly systems.

.05 *Facilities layout changes.* The telecommunications system is an integral part of an office layout. A change in office design often provides an opportunity for the client to rethink the telecommunications system.

44/115 ENGAGEMENT ACCEPTANCE CRITERIA

.01 Practitioners must decide whether the above-mentioned and other engagement opportunities warrant the use of firm resources. In addition to normal business concerns, practitioners also should consider their technical capabilities before accepting an engagement. Practitioners should be able to discuss with competency the issues associated with enhancing or installing a telecommunications system, as well as the options and alternatives available. As part of any consulting engagement, it is important to objectively evaluate the benefits and risks associated with different telecommunications systems and vendors. Practitioners need to update their technical skills and knowledge of systems constantly in order to recognize problems unique to the telecommunications industry and to communicate those problems to the appropriate parties.

44/120 ENGAGEMENT OBJECTIVES AND BENEFITS

.01 In general, the goal of a telecommunications consulting engagement is to assist the client in selecting, negotiating a contract for, and installing a cost-effective system. This may involve installing a new system or improving an existing system. To realize this goal, the practitioner develops a methodology and a work plan for accomplishing the following engagement objectives:

- a. Analyze the current information regarding the existing system and available technology.
- b. Assist the client in making a decision about upgrading or replacing the system.
- c. Help the client select new equipment and vendors.
- d. Assist in the installation, training, and postinstallation processes.

.02 Many key and multiline telecommunications systems produced after 1980 allow upgrades without radical overhauls of the system. The practitioner may be able to demonstrate how system enhancements can be more cost-effective than a new system. Before spending significant human and financial resources, the practitioner assesses whether

the continued use of the system or the purchase of a new system is in the client's best interest.

.03 The practitioner analyzes telephone usage and may recommend methods of using telephones more productively. In this analysis, the practitioner considers not only equipment costs, but also maintenance costs. Since a telecommunications system is a long-term purchase, the practitioner lays out a growth pattern that meets not only the client's current needs, but also its future needs. The practitioner also determines methods of financing the purchase and depreciating the asset, explaining to the client the effects of the new telecommunications system on daily operations and on the company's long-term financial situation.

.04 If properly selected, a new or updated telecommunications system improves productivity. The practitioner may demonstrate to the client, for example, how the telecommunications system and its additional features can improve communications with customers. In addition to technical expertise, the practitioner provides information to the client on various nontechnical factors that often are an integral part of the purchase of a telecommunications system.

44/125 PRACTITIONER'S ROLE

.01 The practitioner may assume one to four roles during an engagement, depending on the scope of the project and the client's particular situation. These roles are information gatherer, selection coordinator, advisor, and implementor.

Information Gatherer

.02 In the role of information gatherer, the practitioner takes an inventory of the system and gathers information about operational procedures and the costs associated with the equipment and its use.

Selection Coordinator

.03 Considering the information gathered about operations and costs, the practitioner assists the client in selecting an appropriate system. This usually involves developing selection criteria and then reviewing each system candidate with due diligence.

Advisor

.04 The practitioner may help negotiate a contract and provide advice during the implementation of the telecommunications system. The practitioner does not serve as a legal advisor or a telephone installer, but instead ensures that the contract meets system and cost specifications.

Implementor

.05 The practitioner may assist the client by overseeing installation and training. In the role of implementor, the practitioner ensures that the system and the options that were contracted for are properly installed and that the staff is adequately trained.

44/130 ENGAGEMENT APPROACH

.01 After reaching an understanding with the client about the scope and conduct of the engagement, the practitioner evaluates the existing system and defines the client's system requirements. The practitioner may also select a system, negotiate a contract for it, monitor its installation, train personnel, and conduct a postinstallation review.

Reaching an Understanding With the Client

.02 To ensure a successful engagement when selecting a telecommunications system, both the client and the practitioner must develop an understanding of the scope and conduct of the project. After an initial meeting with the client, the practitioner summarizes the major points of the understanding in an engagement letter. The understanding covers the number and types of systems to be reviewed. The client needs to understand that the practitioner will not review all of the systems on the market, but only representative major systems that seem most appropriate to the client's situation.

.03 The telecommunications industry is constantly changing, and therefore new products and enhancements to existing products are always entering the market. Products or upgrades released at the end of the engagement should not alter the results of the evaluation unless a new product substantially improves or advances the system. To ensure that the system selected is not only technologically sound but also appropriate for the business environment, the practitioner defers judgment on a new product's reliability and effectiveness until it has a track record.

.04 Before undertaking an engagement, the practitioner provides the client with a general overview of the costs involved in acquiring and maintaining a system. The practitioner may need to explain to the client that an inexpensive system that meets all of the client's needs may be inappropriate because the vendor has a poor service record.

.05 The understanding with the client should explain in detail the specific phases and their costs, as they relate to the engagement. Many practitioners outline the engagement phases, indicating the time frames and the persons responsible for decision making and implementation. They also describe how they will communicate the progress of the engagement to enable the client to monitor the project.

.06 The following table illustrates the typical stages of a full-scope engagement to select a telecommunications system and the appropriate communication that the practitioner may use to summarize the results of that stage.

Table 1

**Typical Stages and Appropriate Communications
of a Full-Scope Telecommunications Engagement**

<u>Stage</u>	<u>Communication</u>
Initial meeting	Engagement letter
Information gathering	Report of findings
Systems and vendors review	Preliminary report
Systems selection	List of selected systems
Purchase and implementation	Purchase comments and implementation plan
Installation and training	Summary of system status

.07 Before beginning an engagement, the practitioner also discusses with the client the expected benefits of the new system and the cost-benefit decisions required to select the best system.

.08 The practitioner summarizes all of the elements of the engagement understanding in a letter to the client. The engagement letter also describes the methodology used in selecting the system. If the engagement involves negotiating a contract or managing the installation of a system, the letter states that the practitioner will provide guidance, not legal advice. The practitioner may also wish to disclaim responsibility for any services other than consulting support, such as maintenance of the selected system. In addition, the letter may state that the client is responsible for informing the practitioner of any changes in its situation that would affect the selection of the system. Exhibit 44B-1 of appendix 44/B provides an illustrative engagement letter.

Evaluating the Existing System

.09 The first step of a telecommunications consulting engagement is to gather information to define the client's existing system. To facilitate this, the practitioner can use a documentation checklist, such as that provided in exhibit 44B-2 of appendix 44/B. The practitioner gathers information about the three main components of a telecommunications system—the hardware, the telephone lines, and the users—to determine how each component affects the current operations, what it costs, and how changes in the system would affect operations and costs. The practitioner documents this information, which forms the foundation of the engagement.

.10 The practitioner seeks documentation from the client about the following system elements:

- *Hardware:* The number of handsets being used, the maximum number of handsets permitted on the system, the number of operator stations, and the features installed in the current unit and those available as an upgrade.
- *Lines:* The number and types of lines (such as telephone lines, fax lines, and modem lines) currently in use, and the maximum number and the types of lines permitted on the existing system.
- *Labor:* The number of operators and their skill levels, the skill levels of the telephone users, the number of hours specifically assigned to telephone functions, the current cost of the telephone staff (operators and message center staff), the predicted increases in telephone staff salaries, and the labor required for service during nonbusiness hours.
- *Operations:* The number of local and long-distance phone calls per hour, the average amount of time spent on each local and long-distance phone call, the average number of lines used at any one time, the peak usage, and other data on the general operations of the telecommunications system.

.11 While gathering information, the practitioner seeks to correlate telephone usage and cost. A system may require the user to perform many functions manually, thereby increasing costs in both real dollars and wasted time. For example, if a system lacks conference call capabilities, a salesperson may have to make two phone calls using two phones simultaneously and relaying information from one customer to another. An analysis of calling patterns can also lead to a justification for system changes or to enhancements that take advantage of least-cost routing.

.12 The practitioner reviews the existing system and its procedural manuals to assess whether the client is getting the most out of it or will need to modify or replace it. The practitioner also asks the existing hardware supplier whether upgrades are available and studies trade publications to see if third-party vendors provide compatible parts and upgrades.

.13 A major part of the information the practitioner gathers concerns how management and employees use the existing system and what improvements they would like. When gathering information from management and employees, the practitioner seeks responses that are as objective as possible. Often client personnel's opinions about a system are subjective. For example, a salesperson who inadvertently disconnected a client may think the system is poor. Client personnel also often exaggerate problems. For example, someone may say that the phone system is always going down when, in fact, the system may have gone down only for three hours after an electrical storm. Exhibit 44B-3 of appendix 44/B provides a sample questionnaire, which the practitioner will find helpful in eliciting objective responses from users.

.14 The practitioner also gathers information on features and options and their current and potential use through interviews and observation of the users. This observation is necessary because users often take for granted basic operations that may have a dramatic impact on the selection of the new system or enhancement. A sample checklist of system features is provided in exhibit 44B-2.2 of appendix 44/B.

Defining System Requirements

.15 After assessing the existing system, the practitioner documents the findings and presents them to the client. The client reviews the information and tentatively decides whether to upgrade or enhance the system. The practitioner then discusses the benefits, including cost benefits, and drawbacks of each alternative with the client.

.16 Once the client decides to upgrade or purchase a telecommunications system, the practitioner transfers the information to a client's needs or system requirements document. This document assists the reviewers in understanding which components of the telecommunications system need to be addressed in detail and which are not essential to the system. The document is not a request for proposal. An RFP is unnecessary because most small telecommunications systems and system enhancements come as a complete package. Vendors do not customize them. The client's needs document provides the practitioner with a priority checklist to ensure that all of the valuable features and options are included in the telecommunications system selected.

.17 In the system requirements document, the practitioner outlines the basic system capabilities needed, including the number of lines for local and long-distance communications and the lines for special telecommunications and data communications, the number of handsets, and the maximum number of handsets the system may need. The document also lists the basic features to be included as part of the standard package and features that can be added with additional cost. The practitioner lists the costs of operating and supporting the system. Operating costs include basic line charges, long-distance line charges, monthly minimum charges if applicable, line charges for specialty services, and the costs of operator personnel, including salaries. The costs of supporting the system include, but are not limited to, the cost of service, anticipated maintenance, and additional equipment necessary to provide support.

.18 The document should also list additional changes forecast for the future. This would include the hardware and software modifications required by the growth of the company or the need to integrate the system with other functions, such as computer networking and electronic mail.

.19 In many engagements, the completion of this activity ends the first phase of an engagement. At this point, it is advisable for the practitioner to meet with the client to discuss the system or enhancement features and costs.

Selecting a System

.20 After defining the system requirements, the practitioner helps the client select the system. System selection depends on many considerations, which involve more than the hardware that actually powers the system. These considerations include the reliability of the vendor who supports the system and the cost of the system and its components. The weight of these considerations usually varies according to the client's location. In urban areas, for example, where several vendors sell the same telecommunications equipment, choosing the system before choosing the vendor is appropriate. In rural areas, however, where vendors usually are fewer, choosing the right vendor before choosing the system is appropriate. In either case, choosing the vendor and the support for the telecommunications system is as important as choosing the system.

.21 When selecting the system, the practitioner compares each of the features and system components with the system requirements that were defined. The practitioner determines whether the system meets such criteria as maintaining the number of handsets and incoming and outgoing lines to meet the company's current and expected needs. Since most companies cannot upgrade these basic components, the practitioner projects a sizeable growth of lines and handsets. A checklist of vendor telecommunications systems information is provided in exhibit 44B-2.1 in appendix 44/B. Another criterion may be whether the system board can be upgraded or the basic cabinetry of the system has to change when additions to the system are made.

.22 The practitioner may also consider the following questions about the system hardware:

- What is covered in the manufacturer's warranty and for how long?
- Is the manufacturer committed to continuing this system's product line?
- How many times has this model been upgraded?
- What is the life cycle of this product?
- What is the company's record in dealing with discontinued models?
- Does the company itself or do local vendors provide technical support for the system?
- What are the system's basic features and can features be added?
- What are the power supply requirements of the telecommunications system?
- Is a backup power supply available?
- What is the mean time between failures? (This is a common method of measuring the durability of the system.)

- If new cabling or special cabling is required, what are the requirements for that cabling and can existing cabling be used wherever possible?

.23 The practitioner considers whether the vendor is an authorized dealer with good references, is knowledgeable about the hardware and the operations of the system, supports and instructs users on the system, and understands the manufacturer's commitment to the system and its product line.

Before selecting a vendor, the practitioner checks with—

- a. The vendor's references about installations of similar systems.
- b. The Better Business Bureau or local chamber of commerce for any outstanding complaints.
- c. The manufacturer to ascertain that the dealer is an authorized representative in good standing.
- d. Appropriate agencies about whether the vendor meets union requirements for the premises where the system is to be installed and if the installer is properly licensed to do this type of work.
- e. The vendor, if installation is involved, to ensure that it has the proper levels of general liability and workers' compensation insurance.

.24 Consideration of the overall service and support of the hardware involves getting answers to the following questions:

- a. Who provides the support and when are they available?
- b. Who is responsible for basic field maintenance?
- c. Does the company provide a toll-free hot line for nonmaintenance questions?
- d. What are the annual support costs?
- e. What type of maintenance contract is available?
- f. What parts does the company maintain in inventory?
- g. Does the company supply loaner equipment in the event of a serious equipment failure?
- h. What is the support company's past track record in dealing with both minor and major problems (including a review of guaranteed response time)?

Exhibit 44B-2.3 of appendix 44/B provides a checklist that practitioners may find useful for reviewing vendors' qualifications and system-support capabilities.

Negotiating the Contract

.25 More than many other types of office equipment, a telecommunications system is crucial to a business's operations. Replacing faulty technology is usually less costly than replacing the bad will that a defective system may cause. When defective equipment interrupts or degrades service, the client needs to know who is responsible for correcting the problem. A properly negotiated contract states the responsibilities of all involved parties concerning the special needs of telecommunications systems. In assisting the client in contract negotiations, the practitioner helps clarify difficult points of interpretation concerning the performance of the telecommunications system. For example, the practitioner may help clarify what is meant by the term *up and running*. The vendor may mean that all the hardware and software parts are functioning properly. However, the practitioner may point out to the client that if the company's personnel are not trained properly, the system may still not be *up and running*. The client may need assistance in negotiating not only for the initial purchase of the hardware but also for add-ons and other peripherals and telephone support. Often, peripherals and support cost significantly more than the telecommunications hardware itself.

.26 Although not offering legal expertise, the practitioner educates the client about the proper uses of the system, its limitations, its potential pitfalls, and its upkeep to ensure that the contract addresses these issues. For example, most systems need a battery backup. The practitioner may need to demonstrate the ramifications of a system's being down even when the vendor insists that the system will never go down. The practitioner suggests that the client have its attorney review the contract to ensure that all of the understandings and additional requirements are drafted properly. By ensuring that the contract covers all critical issues, the practitioner helps the client have greater confidence that the system will operate properly on a long-term basis.

.27 The contract needs to cover the costs of the system, the installation and maintenance responsibilities of the vendor, and the training provided.

28. Costs. The contract states the initial and the long-term costs. These include installation and service charges and the cost of add-ons and other features. The contract also provides a schedule of payments and defines the benchmarks to be achieved before the client makes payment.

.29 Vendor's Installation and Maintenance Responsibilities. The contract specifies the delivery dates and penalties, defines key terms such as *operating in normal business style*, and describes the product and service warranties and owners' rights. The contract needs to indicate who is responsible for cutting over to the local phone company, for connecting to the long-distance carrier, and for maintaining the lines.

.30 Training. The contract documents the arrangements for training users on the system. This includes a clear definition of the level of training to be achieved. For example, if the contract states that users will be *fully trained and proficient*, these terms need to be defined.

.31 The practitioner will find it helpful to use exhibit 44B-2.4 of appendix 44/B, which is an illustrative checklist for negotiating contracts, and to review MAS Technical Consulting Practice Aid No. 5, *EDP Engagement: Assisting Clients in Software Contract Negotiations* (New York: AICPA, 1984). Much of the guidance about assisting clients in negotiating contracts for software covered in that practice aid also applies to negotiating contracts for telecommunications systems.

Monitoring the System Installation

.32 The practitioner ensures that the system installation complies with the contract and follows both the installation plan and timetable. Although not directly responsible for the actual wiring and placement of telephone handsets, the practitioner plays an integral role in this part of the installation. The client will be satisfied only when all parts of the telecommunications system are operating properly. Many systems that operated properly in the vendor's office may not be correctly installed at the client site. If this happens, the client will be dissatisfied with the entire process. By helping to supervise the installation, the practitioner provides guidance about the purpose of the system and reduces the possibility of postpurchase anxiety.

.33 The practitioner carefully monitors these events:

- a. Physical placement of the main key system, the handsets, and the lines, ensuring that they comply with fire and building codes
- b. The loading of the software
- c. The cut-over of the local and long-distance lines
- d. The coding of system parts to ensure quick and easy identification and replacement
- e. Tests of the battery backup system, the lines, the handsets, and any special communications equipment on the existing lines

An illustrative checklist for monitoring a telecommunications system installation (exhibit 44B-2.5) is included in appendix 44/B.

Training Personnel

.34 After the system is installed, training personnel to use it is the last step in making it operational. A sophisticated system with good vendor support is useless unless personnel

know how to use it. The practitioner's role is not to train the users, but to oversee their training, ensuring that they understand all of the features so they can use the system effectively. The training needs to include a full explanation, followed by a hands-on review, of the system and its features, and a lesson in troubleshooting in the case of equipment failure. In addition, the users need to receive a detailed manual on how to use the different parts of the system and a number to call in case questions arise after the training session. A sample checklist for personnel training, exhibit 44B-2.6, is included in appendix 44/B.

Conducting a Postinstallation Review

.35 The practitioner arranges to review the installation to ensure that the system is working as expected. The practitioner may want to establish the guidelines for the postinstallation review while the system is being installed. This will allow close review of the more complicated points of the installation.

.36 The postinstallation review involves assessing how the installation complies with the contract terms, scrutinizing the hardware, and analyzing the costs of operating the system, including local and long-distance charges. The practitioner also observes users using the system, evaluates personnel training, and meets with key personnel to elicit opinions and correct any problems.

44/135 ENGAGEMENT OUTPUT

.01 The primary output of a consulting engagement in telecommunications is the successful installation of a system or option or an evaluation of service. However, as the engagement progresses, the practitioner needs to supply the client with a written report of the results of the different tasks, comparing them with the engagement objectives. The following documents are typical outputs of a telecommunications engagement:

.02 *Report of findings and recommendations.* The practitioner reports the findings regarding the telecommunications system and explains in detail the rationale of the recommendations. The report also explains what functions the practitioner did not recommend and what problems may arise because these features are unavailable. The practitioner outlines the decisions that were made and how they were reported to the client.

.03 *Implementation plan.* The implementation plan describes how the system is to be installed and what is required. It includes a timetable and a list of the parties involved and their responsibilities.

.04 *Responsibilities assignments.* The practitioner lists the persons involved in operating and maintaining the installed system, along with their responsibilities.

.05 *Procedures manual.* The practitioner develops a manual instructing users about the telecommunications system and its features. It should incorporate the manufacturer's or

vendor's manual, which may need to be adapted to the client's needs. This is especially needed for peripherals to the main telecommunications system, such as call accounting and voice message systems.

.06 *Cost analysis reporting.* The practitioner develops a method of analyzing the costs of telecommunications system usage. A possible follow-on engagement to the installation of a telecommunications system is an engagement to show the client how the system is performing and how to fine-tune the system to improve efficiency. This would include setting up a way of measuring and tracking phone usage costs for the client.

.07 One of the more common cost-analysis methods is called call accounting. Often a separate hardware device or software program, call accounting identifies each outgoing call with a specific client or function by requiring user input of numerical client or function codes. Frequently, professional firms interested in accounting for client costs use this cost-analysis tool. Often, this component is integrated with compatible time-and-billing software systems that allow charges to be posted directly to client accounts. Manufacturing firms are also finding that a device that analyzes calls made to client locations and on behalf of client business allows the firm to get a better picture of the total costs related to maintaining a client.

44/140 MARKETING TELECOMMUNICATIONS SERVICES

.01 To market telecommunications consulting services, practitioners use the same approach they would use to market other technology consulting services. Effective marketers know both their market and the skills necessary to perform the required tasks. Practitioners who successfully market this service usually concentrate on two targets: (a) clients who already have confidence in their services in telecommunications and related functions, and (b) those whom they have served in other areas but who are unaware of their telecommunications consulting skills. To convince clients that they are the right choice for a telecommunications engagement, practitioners present this skill as only one facet of their entire service package to the client. Clients satisfied with prior work feel that this skill is a normal extension of service.

.02 When designing a marketing plan, practitioners should expect to use the marketing tactics they are most comfortable with in their general practice development. Practitioners who have never used direct mail marketing, for example, would probably be unsuccessful if they introduced telecommunications services at the same time they introduced this marketing approach.

.03 A marketing plan requires selecting target markets. Typically, practitioners use objective criteria to select potential clients. For example, they may ask themselves these questions about current clients: Is the company growing, and will it outgrow its present telecommunications system? Has its telecommunications system been an impediment to the proper conduct of business? When we provided other technology consulting services, did we observe that the telecommunications system also needed to be upgraded?

.04 After the selection of a target market, the next step is to introduce the service. This may be done in the following ways:

- a. A proposal letter introducing the service and asking clients to respond to arrange a discussion.
- b. A seminar presentation on phone service and systems to several clients.
- c. A talk on telecommunications systems before a local trade association.
- d. A free survey of clients' existing systems along with a brief summary of their strengths and weaknesses.

.05 After introducing the firm's capability in telephone consulting to existing and prospective clients, the practitioner's next step is to sell the benefits of an engagement. The practitioner may wish to tell the client that telecommunications consulting skills are part of a range of services. Consequently, the practitioner's firm can bring to telecommunications consulting the same skills it brings to all consultations and engagements. The practitioner also points out that the firm has the following skills, knowledge, and experience that vendors do not have:

- a. An understanding of the client's operations and its telecommunications needs based on continual service.
- b. Accounting expertise that ensures a cost-justified approach to selecting and installing a telecommunications system.
- c. Systems and controls experience that allows the practitioner to provide this service methodically and objectively.
- d. A life-cycle orientation in analyzing benefits and costs as opposed to the vendor's primary goal to sell to and oblige the customer.
- e. Complete objectivity in conducting the evaluation and making recommendations, which is necessary to evaluate systems without bias and provide the client with a proper report.

.06 During discussions, the client learns which services are available and why the practitioner's firm is the best candidate to provide them. The final step in selling an engagement is formally outlining the engagement understanding in a letter. (Exhibit 44B-1 of appendix 44/B is a sample letter for a telecommunications project.)

APPENDIX 44/A

STATEMENT ON STANDARDS FOR CONSULTING SERVICES

CONSULTING SERVICES: DEFINITIONS AND STANDARDS

Introduction

1. Consulting services that CPAs provide to their clients have evolved from advice on accounting-related matters to a wide range of services involving diverse technical disciplines, industry knowledge, and consulting skills. Most practitioners, including those who provide audit and tax services, also provide business and management consulting services to their clients.

2. Consulting services differ fundamentally from the CPA's function of attesting to the assertions of other parties. In an attest service, the practitioner expresses a conclusion about the reliability of a written assertion that is the responsibility of another party, the asserter. In a consulting service, the practitioner develops the findings, conclusions, and recommendations presented. The nature and scope of work is determined solely by the agreement between the practitioner and the client. Generally, the work is performed only for the use and benefit of the client.

3. Historically, CPA consulting services have been commonly referred to as management consulting services, management advisory services, business advisory services, or management services. A series of Statements on Standards for Management Advisory Services (SSMASs) previously issued by the AICPA contained guidance on certain types of consulting services provided by members. This Statement on Standards for Consulting Services (SSCS) supersedes the SSMAAs and provides standards of practice for a broader range of professional services, as described in paragraph 5.

4. This SSCS and any subsequent SSCSs apply to any AICPA member holding out as a CPA while providing consulting services as defined herein.

Definitions

5. Terms established for the purpose of the SSCSs are as follows:

Consulting Services Practitioner. Any AICPA member holding out as a CPA while engaged in the performance of a consulting service for a client, or any other individual who is carrying out a consulting service for a client on behalf of any Institute member or member's firm holding out as a CPA.

Consulting Process. The analytical approach and process applied in a consulting service. It typically involves some combination of activities relating to determination of client objectives, fact-finding, definition of the problems or opportunities, evaluation of alternatives, formulation of proposed action, communication of results, implementation, and follow-up.

Consulting Services. Professional services that employ the practitioner's technical skills, education, observations, experiences, and knowledge of the consulting process.¹ Consulting services may include one or more of the following:

- a. *Consultations*, in which the practitioner's function is to provide counsel in a short time frame, based mostly, if not entirely, on existing personal knowledge about the client, the circumstances, the technical matters involved, client representations, and the mutual intent of the parties. Examples of consultations are reviewing and commenting on a client-prepared business plan and suggesting computer software for further client investigation.
- b. *Advisory services*, in which the practitioner's function is to develop findings, conclusions, and recommendations for client consideration and decision making. Examples of advisory services are an operational review and improvement study, analysis of an accounting system, assistance with strategic planning, and definition of requirements for an information system.
- c. *Implementation services*, in which the practitioner's function is to put an action plan into effect. Client personnel and resources may be pooled with the practitioner's to accomplish the implementation objectives. The practitioner is responsible to the client for the conduct and management of engagement activities. Examples of implementation services are providing computer system installation and support, executing steps to improve productivity, and assisting with the merger of organizations.
- d. *Transaction services*, in which the practitioner's function is to provide services related to a specific client transaction, generally with a third party. Examples of transaction services are insolvency services, valuation services, preparation of information for obtaining financing, analysis of a potential merger or acquisition, and litigation services.
- e. *Staff and other support services*, in which the practitioner's function is to provide appropriate staff and possibly other support to perform tasks specified by the client. The staff provided will be directed by the client as circumstances require. Examples of staff and other support services

¹ The definition of Consulting Services excludes the following:

- a. Services subject to other AICPA Technical Standards such as Statements on Auditing Standards (SASs), Statements on Standards for Attestation Engagements (SSAEs), or Statements on Standards for Accounting and Review Services (SSARSs). (These excluded services may be performed in conjunction with consulting services, but only the consulting services are subject to the SSCS.)
- b. Engagements specifically to perform tax return preparation, tax planning/advice, tax representation, personal financial planning or bookkeeping services; or situations involving the preparation of written reports or the provision of oral advice on the application of accounting principles to specified transactions or events, either completed or proposed, and the reporting thereof.
- c. Recommendations and comments prepared during the same engagement as a direct result of observations made while performing the excluded services.

are data processing facilities management, computer programming, bankruptcy trusteeship, and controllership activities.

f. Product services, in which the practitioner's function is to provide the client with a product and associated professional services in support of the installation, use, or maintenance of the product. Examples of product services are the sale and delivery of packaged training programs, the sale and implementation of computer software, and the sale and installation of systems development methodologies.

Standards for Consulting Services

6. The general standards of the profession are contained in rule 201 of the AICPA Code of Professional Conduct (AICPA, *Professional Standards*, vol. 2, ET sec. 201.01) and apply to all services performed by members. They are as follows:

Professional competence. Undertake only those professional services that the member or the member's firm can reasonably expect to be completed with professional competence.

Due professional care. Exercise due professional care in the performance of professional services.

Planning and supervision. Adequately plan and supervise the performance of professional services.

Sufficient relevant data. Obtain sufficient relevant data to afford a reasonable basis for conclusions or recommendations in relation to any professional services performed.

7. The following additional general standards for all consulting services are promulgated to address the distinctive nature of consulting services in which the understanding with the client may establish valid limitations on the practitioner's performance of services. These Standards are established under rule 202 of the AICPA Code of Professional Conduct (AICPA, *Professional Standards*, vol. 2, ET sec. 202.01).

Client interest. Serve the client interest by seeking to accomplish the objectives established by the understanding with the client while maintaining integrity and objectivity.²

² Article III of the Code of Professional Conduct describes *integrity* as follows:

"Integrity requires a member to be, among other things, honest and candid within the constraints of client confidentiality. Service and the public trust should not be subordinated to personal gain and advantage. Integrity can accommodate the inadvertent error and the honest difference of opinion; it cannot accommodate deceit or subordination of principle."

Article IV of the Code of Professional Conduct differentiates between *objectivity* and *independence* as follows:

"Objectivity is a state of mind, a quality that lends value to a member's services. It is a distinguishing feature of the profession. The principle of objectivity imposes the obligation to be impartial, intellectually honest, and free of conflicts of interest. Independence precludes relationships that may appear to impair a member's objectivity in rendering attestation services."

Understanding with client. Establish with the client a written or oral understanding about the responsibilities of the parties and the nature, scope, and limitations of services to be performed, and modify the understanding if circumstances require a significant change during the engagement.

Communication with client. Inform the client of (a) conflicts of interest that may occur pursuant to interpretations of rule 102 of the Code of Professional Conduct³ (b) significant reservations concerning the scope or benefits of the engagement, and (c) significant engagement findings or events.

8. Professional judgment must be used in applying Statements on Standards for Consulting Services in a specific instance since the oral or written understanding with the client may establish constraints within which services are to be provided. For example, the understanding with the client may limit the practitioner's effort with regard to gathering relevant data. The practitioner is not required to decline or withdraw from a consulting engagement when the agreed-upon scope of services includes such limitations.

Consulting Services for Attest Clients

9. The performance of consulting services for an attest client does not, in and of itself, impair independence.⁴ However, members and their firms performing attest services for a client should comply with applicable independence standards, rules and regulations issued by the AICPA, the state boards of accountancy, state CPA societies, and other regulatory agencies.

Effective Date

10. This Statement is effective for engagements accepted on or after January 1, 1992. Early application of the provisions of this Statement is permissible.

³ Rule 102-2 on Conflicts of Interest states, in part, the following:

"A conflict of interest may occur if a member performs a professional service for a client or employer and the member or his or her firm has a significant relationship with another person, entity, product, or service that could be viewed as impairing the member's objectivity. If this significant relationship is disclosed to and consent is obtained from such client, employer, or other appropriate parties, the rule shall not operate to prohibit the performance of the professional service"

⁴ AICPA independence standards relate only to the performance of attestation services; objectivity standards apply to all services. See footnote 2.

APPENDIX 44/B

SAMPLE FORMS AND LETTERS

Exhibit 44B-1

Letter for a Telecommunications Engagement¹

CPA & Company
123 Main Street
Anytown, USA 10000

Mr. William Morris
The Morris Agency
500 Madison Avenue
Anytown, USA 10000

Dear Mr. Morris:

This letter confirms our arrangement to assist you in the selection and implementation of a new telecommunications system for The Morris Agency.

Our engagement will consist of the following:

1. We will define the requirements of your company for a telecommunications system. This will involve our reviewing and documenting your existing system and preparing a report that describes the features The Morris Agency needs to maintain effective telecommunications.
2. After you have reviewed our report and we have agreed on the features required by your company, we will review appropriate telecommunications systems and vendors. From these, we will select for your review the systems and vendors that offer the best value in telecommunications equipment and vendor performance.
3. After you decide on the telecommunications system and vendor, we will assist you in negotiating purchase, installation, and support contracts. Our assistance will include evaluating the different methods of purchase and advising you about which technical items to include in the purchase and support contracts and about the conduct of the installation. We will advise, not as lawyers, but as telecommunications systems consultants.

¹ For more information on writing engagement letters, see MAS Practice Administration Aid No. 5, *Communicating With Clients About MAS Engagement Understandings* (New York: AICPA, 1988).

4. We will assist in the implementation of the telecommunications system. As your representative, we will monitor the implementation to ensure that it complies with our established plan.

Our role in this engagement will be to advise management by presenting our findings and recommendations. Management, however, will be responsible for making the final decisions. Management is also responsible for ensuring that the information presented about your company and its telecommunications system requirements is accurate and up-to-date.

We will present our findings in four parts:

1. Basic system specifications
2. Recommended telecommunications systems and vendors
3. Contract analysis and recommendations
4. Implementation plan

We would like to review each part with management when we present it. This will allow management to monitor the engagement's progress and will ensure selection of the telecommunications system and implementation path appropriate for The Morris Company.

We will be responsible for recommending the proper telecommunications equipment and vendor to service the equipment. We will not be responsible for repairing and maintaining the hardware. However, we will advise you on appropriate measures to take to ensure the upkeep of the equipment.

Our fees are based on our standard hourly rates and are payable on receipt.

We are pleased to offer this service to you and look forward to working with you in selecting a telecommunications system. Please signify your acceptance of these terms by signing and returning one copy of this letter to us.

Sincerely,

Felix Apc
CPA & Company

Accepted :

William Morris
The Morris Agency

Date : _____

Existing Telecommunications System Information Checklist

Hardware

Number of handsets in current use _____
Maximum number of handsets _____
Number of operator stations in use _____
Maximum number of operator stations _____
Size of system console _____

Telephone Lines

Current number of all lines _____
Number of local lines _____
Number of long-distance lines _____
Number of specialty lines _____

Maximum Capacity

Number of all lines _____
Number of local lines _____
Number of long-distance lines _____
Number of specialty lines _____
WATS _____
Multiplexer/data lines _____
Alarm lines _____

Local Telephone Usage

Average number of phone calls per month _____
Largest volume of phone calls per month _____
Basic monthly service charge _____
Average monthly service charge _____

Long-Distance Telephone Usage

Average number of phone calls per month _____
Largest volume of phone calls per month _____
Basic monthly service charge _____
Average monthly service charge _____

Operations

Daily business hours	_____
Amount of use after daily business hours	_____
Number of modems used	_____
Number of fax machines used	_____

Cost

Basic hardware system	_____
Basic software system	_____
Additional features	_____
Installation	_____
Training	_____

Checklist of Vendor Telecommunications Systems Information

Name of Vendor System _____

Hardware

Maximum number of handsets _____
Maximum number of operator stations _____
Size of system console _____

Telephone Lines

Maximum number of all lines _____
Maximum number of local lines _____
Maximum number of long-distance lines _____
Maximum number of specialty lines _____

Phone Charges

Local monthly service charge _____
Long-distance monthly service charge _____

Cost

Basic hardware system _____
Basic software system _____
Additional features aggregate _____
Total cost _____
Installation _____
Training _____

Checklist of Telecommunications Systems Features

	<u>Required by Client</u>	<u>In Current Basic System</u>	<u>Current System Enhancement Cost</u>	<u>In Vendor's Basic System</u>	<u>Vendor System Enhancement Cost</u>
Automatic attendant	_____	_____	_____	_____	_____
Automatic callback	_____	_____	_____	_____	_____
Battery backup	_____	_____	_____	_____	_____
Call pickup directed	_____	_____	_____	_____	_____
Call hold	_____	_____	_____	_____	_____
Call identification	_____	_____	_____	_____	_____
Call forwarding	_____	_____	_____	_____	_____
Call accounting	_____	_____	_____	_____	_____
Call pickup group	_____	_____	_____	_____	_____
Computer workstations lines	_____	_____	_____	_____	_____
Conference calling	_____	_____	_____	_____	_____
Data communications	_____	_____	_____	_____	_____
Direct department calling	_____	_____	_____	_____	_____
Discriminating ringing	_____	_____	_____	_____	_____
Do-not-disturb	_____	_____	_____	_____	_____
DTMF/DP telephones	_____	_____	_____	_____	_____
High-cost signal	_____	_____	_____	_____	_____

	<i>Required by Client</i>	<i>In Current Basic System</i>	<i>Current System Enhancement Cost</i>	<i>In Vendor's Basic System</i>	<i>Vendor System Enhancement Cost</i>
Hunt groups	_____	_____	_____	_____	_____
Intercom capabilities	_____	_____	_____	_____	_____
Least-cost routing	_____	_____	_____	_____	_____
Lighted line indicators/LCD	_____	_____	_____	_____	_____
Loudspeaker paging systems	_____	_____	_____	_____	_____
Meet-me page	_____	_____	_____	_____	_____
Music-message hold	_____	_____	_____	_____	_____
Night class of service	_____	_____	_____	_____	_____
Third-party conference calling	_____	_____	_____	_____	_____
Toll blocking	_____	_____	_____	_____	_____
Voice mail	_____	_____	_____	_____	_____

Checklist of Vendor Qualifications and System Support

Vendor Qualifications

Address of vendor servicing your phone system

Additional locations _____

	<u>Servicing Location</u>	<u>Nationally</u>
Number of staff	_____	_____
Service professionals	_____	_____
Customer support	_____	_____

How long has the dealer handled the telecommunications hardware?

Is the dealer an authorized dealer? (Demonstrate proof of authorized dealer status.)

What is the dealer's current financial position? (Include a copy of the dealer's financial report.)

<u>System Support</u>	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Does the dealer stock parts for the system?	_____	_____	_____
Does the dealer sell other systems, and, if so, why did the dealer recommend this system?	_____	_____	_____
Does the dealer maintain a support or training staff?	_____	_____	_____
Are there other dealers in the area that support the system? (List other dealers.)	_____	_____	_____
What are the annual support costs? (These should be broken down by the components of the system.)			
Year 1	_____	_____	_____
Year 2	_____	_____	_____
Year 3	_____	_____	_____
Year 4	_____	_____	_____
Year 5	_____	_____	_____

During daily, weekend, and holiday periods what hours does the vendor support the system and what are the guaranteed technician response times?

	<u>Hours</u>	<u>Response Time</u>
Daily	_____	_____
Weekend	_____	_____
Holiday	_____	_____

What is the vendor's policy regarding replacement parts?

Who maintains the field-level support?

Are there software components of the system? If so, how often are they updated, and who is responsible for updating the software?

If the software requires updates (as in the case of tariff adjustments), who is responsible for system software updates?

Exhibit 44B-2.4

Checklist for Contract Negotiations

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Are the following items included in the detailed contract?			
Hardware, hardware features, software, installation, and training cost of the initial system	_____	_____	_____
Provisions for partial payment to be withheld until 15 days after full customer satisfaction with the installation of the system	_____	_____	_____
Warranties including service commitments. Describe.	_____	_____	_____
Support of the system and specific turnaround time for emergency repairs	_____	_____	_____
Hourly rates and service call charges in detail for a 12-month period with provisions for increases limited to the consumer price index	_____	_____	_____
A guarantee from the vendor that as of the date of installation, the system is eligible for business rather than trunk line rates from the local telephone company	_____	_____	_____
A provision that no more than 1/3 of the payment be made before system cut-over and that the vendor provide a lien release from the manufacturer	_____	_____	_____

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Assignment of specific responsibilities for local and long distance carriers during cut-over	_____	_____	_____
Is a copy of the vendor's financial statement available? (Smaller vendors should also include a personal guarantee for the viability of the system.)	_____	_____	_____

Exhibit 44B-2.5

Checklist for Monitoring a Telecommunications System Installation

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Are the following work steps included in the cut-over of the telecommunications system?			
Is the old phone number going to be in use? If not, will the telephone company notify people of the new number and for what period of time?	_____	_____	_____
If the new system fails to perform properly upon installation, is there a contingency plan to maintain communications?	_____	_____	_____
Are both the phone company and the long-distance carrier aware of the cut-over date and have they made proper line arrangements?	_____	_____	_____
Has the system been properly "burned in" and tested before installation?	_____	_____	_____

Checklist for Personnel Training

	<u>Yes</u>	<u>No</u>	<u>Comments</u>
Have the operators been properly trained on the new console?	_____	_____	_____
Have the operators been given a course by the vendor or system personnel on the operations of the unit?	_____	_____	_____
Have the staff been given a training course on the features of their handsets?	_____	_____	_____
Are operator manuals available to all users on the system?	_____	_____	_____

Exhibit 44B-3

Telephone User's Questionnaire

The telephone questionnaire is an excellent tool for determining management and staff's use of the existing telecommunications system. Before distributing an instruction sheet, the practitioner explains the appropriate terms to use in answering the questionnaire. For example, the practitioner may explain that respondents are to complete the statement "The distribution of outgoing calls is ..." in total minutes, not total number of calls. The practitioner also tells users to describe their actual calling practices rather than projected calling practices. Not only does this help determine whether a new system is warranted, but also may alert users to features of their existing system that they do not use or are unaware of.

1. Name _____
2. Position _____
3. Department _____
4. Location _____
5. The phone calls I make are usually

	<u>Local</u>	<u>Long Distance</u>
a. Long (more than 10 minutes)	_____ %	_____ %
b. Medium (between 2 and 10 minutes)	_____ %	_____ %
c. Short (less than 2 minutes)	_____ %	_____ %
6. The distribution of minutes of outgoing calls is

a. Local calls	_____ %
b. Long-distance calls	_____ %
7. I call mainly

a. During the entire day	_____
b. In the morning	_____
c. In the afternoon	_____
d. After normal business hours	_____

8. I place the calls

- a. Myself _____
- b. With the aid of support staff _____

9. The distribution of minutes of incoming calls is

- a. Local calls _____ %
- b. Long-distance calls _____ %

10. I would use the features listed below:

	<u><i>In the normal course of business</i></u>	<u><i>Rarely</i></u>	<u><i>Not at all</i></u>
Automatic attendant	[]	[]	[]
Automatic callback	[]	[]	[]
Call forwarding	[]	[]	[]
Call hold	[]	[]	[]
Call identification	[]	[]	[]
Call pickup group	[]	[]	[]
Computer workstation lines	[]	[]	[]
Conference calling	[]	[]	[]
Data communications	[]	[]	[]
Direct department calling	[]	[]	[]
Do-not-disturb	[]	[]	[]
Intercom capabilities	[]	[]	[]
Lighted line indicators	[]	[]	[]
Loudspeaker paging systems	[]	[]	[]
Meet-me page	[]	[]	[]
Speaker phones	[]	[]	[]
Third-party conference calling	[]	[]	[]
Toll blocking	[]	[]	[]
Voice mail	[]	[]	[]

General Comments

GLOSSARY

The following list of common terms in the telecommunications industry is not comprehensive. The practitioner will find additional reference materials in the Bibliography of this practice aid.

attendant-related features The features available only to the consoles attached to the system.

automatic attendant A feature that allows an automatic device to answer a call.

automatic callback A feature that allows a caller who gets a busy signal from another station to call back automatically when the line becomes free.

battery backup A device that allows the telecommunications system to operate normally in the event of a power outage.

call coverage A feature that allows the station user to determine where and under what conditions to send calls from one station to another. This is also known as *call forwarding*.

call hold A feature that allows a user to put a call on hold.

call identification The system automatically identifies the caller. It may identify internal calls by caller name or extension number and outside lines by registering the caller's number or the words *outside line*.

call pickup directed A feature that allows a station to answer a ringing phone that was not directed to it.

call pickup group A group of stations, any one of which can answer incoming calls that are directed to any station in the group.

Centrex A leased service provided by the local telephone company that gives customers the use of an allocated portion of the central office station of the telephone company.

class of service A class of service defines the conditions, rates, and quality of the phone line and usage. Up to 255 classes of telephone service are available.

computer workstation lines A feature allowing users to link computer workstations to the telecommunications system.

conference calling A feature that allows one station to call other internal and external stations and have them participate in a call from another station or several other stations.

data communications The transmission of data from computer to computer through telephone lines.

direct department calling A feature that allows a user to call a station directly without going through the central switching unit or PBX.

direct-in-line (DIL) A feature similar to a direct department line except that the call is placed to a single station rather than an entire department.

discriminating ringing Different ringing and bell tones to indicate whether a call has been received from an internal or external line.

do-not-disturb A feature that gives incoming calls either a busy signal or a signal indicating that the station is not to be disturbed.

DTMF/DP telephones Systems that allow pushbuttons (DTMF) and rotary (DP) telephone handsets.

equal access The ability of users to jump across long-distance companies of their choosing by depressing 1 on the handset.

high-cost signal A signal that tells users that their call is being routed on the most expensive route.

hunt groups A feature that relays an external or internal call from one group of stations to another based on the hunt selection sequence specified by the system.

intercom capability The ability to use a handset as an intercom without dialing the party through an outside line.

key telephone system A type of telecommunications system that allows users to connect directly to an outside line by depressing a button on the handset.

least-cost routing A system feature that automatically selects the most economical method for the call to be placed.

lighted line indicators Lights on the handset indicating which lines are in use.

loudspeaker paging systems A loudspeaker paging system can be installed in either the handsets or in the surrounding environs. The loudspeaker can be activated like another extension on the phone system.

meet-me page A station that can page users and request that they go to the nearest available station and type in a code to be added as a party to a conference call. This feature can also be used to program automatic return calls from busy stations.

music-message hold The system plays background music or a message while the calling party is on hold.

night class of service The ability to change the day basic class of service by placing the system in the night mode. This includes changes in external calling patterns.

station-related features The features available to users. They are accessed and programmed at the user's telephone instrument.

system-related functions Features available to all users as part of the system.

toll blocking The ability to limit the area codes or exchanges to which a phone call can be made.

voice mail A system feature that allows a voice message to be taped by callers dialing onto a specific extension when either the user does not respond or the line is busy. The user can later retrieve the messages either internally or externally using a touch-tone phone.

wide area telephone service (WATS) One type of telephone service that offers reduced rates for long-distance calling. Different long-distance carriers have different types of WATS services.

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Directories

The following directories are published annually:

Telecommunications Cost and Call Management.

Telecommunications Systems Guide.

Both directories are published by Faulkner Publishing Company, 6560 N. Park Drive, Pennsauken, N.J. 08109.

Telephony's Telecom Tactics and Strategies.

Published by Telephony, 55 E. Jackson Boulevard, Suite 1100, Chicago, Ill. 60604.

Periodicals

Gelfond, Susan. "What's Causing That Blip in Your Business Phone Bills?" *Business Week* (May 1, 1989): 132A.

Jordan, Alan H. "Using a Spreadsheet to Analyze Phone Bills." *The Office 102*: (October, 1985) 43-44+.

LaBlanca, Elizabeth. "How Companies Can Cut Telephone Costs." *Advanced Management Journal* 49: (August 1984) 24-28.

McHale, Daniel. "Call Accounting Systems Meet the Microcomputer." *Telephony* (May 6, 1985).

In addition to these specific articles, the practitioner will find the following weekly journals contain helpful articles.

Telephone News. Published by Phillips Publishing, 7811 Montrose Road, Potomac, Md. 20854

Telephony. Published by Telephony, 55 E. Jackson Boulevard, Suite 1100, Chicago, Ill. 60604.

CONSULTING SERVICES PRACTICE AIDS

<i>Title</i>	<i>Product Number</i>
Small Business Consulting Practice Aids Series	
<i>Assisting Small Business Clients in Obtaining Funds</i>	055018
<i>Identifying Client Problems: A Diagnostic Review Technique</i>	055253
<i>Assisting Clients in Maximizing Profits: A Diagnostic Approach</i>	055268
<i>Effective Inventory Management for Small Manufacturing Clients</i>	055272
<i>Assisting Clients in Determining Pricing for Manufactured Products</i>	055287
<i>Business Planning</i>	055291
<i>Personal Financial Planning: The Team Approach</i>	055304
<i>Valuation of a Closely Held Business</i>	055319
<i>Diagnosing Management Information Problems</i>	055323
<i>Developing a Budget</i>	055338
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