

**Defense Standardization Program
Strategic Plan Deliverable**

30 September 2001

***Strategy for Increasing
Electronic Products
and Services***

[Task VIA1]

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Executive Summary

Technology and Acquisition Reform are driving profound changes in the way the DoD and its customers conduct business. Business technology is rapidly becoming fully electronic, and paper-oriented acquisition and procurement methods are giving way to faster and more flexible email and web-based modes. The Defense Standardization Program (DSP) Strategic Plan mandates increasing the number of DSP products and services available electronically in order to serve its customers better in this evolving business environment. While many DSP products and services are already available electronically, some remain in paper form. The DSP must determine which of its products and services customers want to receive in electronic form and how to provide them cost effectively.

The Army-led Outreach Integrated Process Team (IPT) documented the DSP products and services available both electronically (Appendix A) and non-electronically (Appendix B). While some data regarding customer demand for non-electronic products has been obtained, the IPT concluded that the DSP should prepare a comprehensive survey instrument to determine customer demand for converting paper-based products to electronic media and to address a range of issues of concern to DoD's leadership and DSP's customers. A database of leaders and customers was developed by the Army-led IPT and was provided on disk with the IPT's deliverable addressing a *Strategy for Increasing Customer Awareness and Involvement*. This database is available for use in targeting surveys. It is described in Appendix C.

Guidance on survey preparation and conduct is provided in Appendix D. A sample survey instrument for web-based use is provided in Appendix E. Customer responses to the survey will enable the DSP to set priorities for transitioning their products and services from paper to electronic format. Appendix F provides a process flow detailing steps for implementing the survey. Appendix G provides a list of acronyms used in this deliverable.

Broadly stated recommendations proposed by the IPT are listed below and fleshed out in detail in Section 2.

Recommendation 1: Determine which non-electronic products and services would add the greatest value if converted to electronic form.

Recommendation 2: Initiate a product/service conversion process based on the greatest return on investment (value) to the DSP and its customers.

Recommendation 3: Conduct periodic surveys to gather customer feedback on which products and services to provide in the future and make determinations consistent with the best value strategy.

Recommendation 4: Incorporate new standardization products and services into the electronic/non-electronic decision process, applying the best value strategy.

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Section 1. Introduction

1.1 Background

Technology and Acquisition Reform are driving profound changes in how the DoD and its customers conduct business. Business technology is rapidly becoming electronic. Paper-oriented acquisition and procurement methods are giving way to faster and more flexible modes, such as electronic mail and web-enabled applications. To better serve its customers in the evolving business environment, the Defense Standardization Program (DSP) must make more of its products and services available in electronic formats. While many DSP products and services are already available electronically, some remain in paper form. The DSP strategic plan mandates increasing the number of DSP products and services available electronically.

1.2 Army-Led IPT Tasking

The Army-led IPT undertook to address the task of improving the accessibility of DSP products, services, processes, and policies by increasing the number available by electronic means. Figure 1 provides the tasking stated in the DSP Strategic Plan¹:

Focus Area	VI. Processes, Products, and Services
Objective	VIA. DSP products and services are easily accessible to anyone who needs them.
Action (Task)	VIA.1. Increase the number of DSP products and services that are available electronically.
Key Steps	<ol style="list-style-type: none">1. Determine the current status of products and services.2. Identify customer needs.3. Determine which products and services should be available electronically.4. Identify details of technical implementation.5. Implement.

Figure 1. Army-Led IPT Strategic Plan Tasking

¹ Defense Standardization Program Strategic Plan Implementation, October 1999, Section VI (Processes, Products, and Services), pg. 9.

Section 2. Overview of the Issues

2.1 Problem Definition

The DSP provides products and services to its customers by both electronic and non-electronic means. These products and services include policy and procedures guidance, procedures and standards for developing standardization documents, actual standardization documents, databases, automated tools, training, information on international standardization agreements, and general information on interoperability, standardization, sustainment, and commercial-military integration. The DSP already provides its customers with many of its products and services electronically on-line through the ASSIST, the official source of DoD specifications and standards. Customers can access current and accurate standardization documents, as well as information on standardization projects, points of contact, and myriad other standardization-related topics, by referring to the ASSIST. The ASSIST is accessible through the DSP homepage (<http://dsp.dla.mil>).

The DSPO continuously improves the effectiveness of ASSIST through incremental planned and prioritized enhancements. Converting non-electronic products to electronic formats or adding new electronic products to the inventory naturally competes with other ASSIST enhancements for priority and resources. Increasing the number of DSP products available electronically makes economic sense only if a sufficient number of customers value and use the products and services. Converting existing documents to electronic format should compete with developing and offering new products and services for scarce standardization resources.

2.2 Need and Opportunity

A core theme of the DSP strategic plan is becoming more customer-focused. Customer-focus requires knowing specifically who your customers are, having a means for determining their needs, and having mechanisms for assessing how well DSP products and services satisfy those needs. Customers for DSP products and services are found throughout DoD as well as in other parts of Government and the commercial marketplace. ASSIST Alert and several other data sources contain partial lists of DSP customers. A comprehensive database of customers was initiated under the *Customer Awareness and Involvement Strategy* task and information about it can be found in Appendix C. The database needs to be made available through the proposed knowledge management portal and continually grown and updated for it to be of maximum value.

Customer needs should determine the appropriate strategy for increasing the number of electronic products and services. Customer feedback, based on valid scientific data collection methods, is essential to this process. However, the actual conduct of the comprehensive customer satisfaction survey proposed here—while desirable and appropriate—is beyond the scope of the Army-led IPT's assignment as defined in figure 1. This deliverable contains recommendations, guidance, and tools that define the framework for conducting a definitive survey.

It should be noted that the Army-led IPT developed a preliminary customer survey in Task IVB.1 which was delivered to and accepted by the DSPO in September 2000. The DSPO subsequently administered this survey through the ASSIST and obtained much useful information about customer reactions to and use of the DSP's products and services. Tasking for the IVB.1 survey was to determine "the degree to which the DSP is clearly understood, widely recognized and valued, and perceived as useful by its customers." These issues were surveyed for both electronic and non-electronic products and services, but the specific issue of whether more or particular products and services should be made available electronically was not a part of the IVB.1 tasking.

2.3 Objectives and Desired Outcomes

The near-term objective of the Army-led IPT's recommendations is to obtain a clear picture of what currently available products and services the DSP's customers want to receive or obtain electronically, now and in the future. In the long term, the objective should be to make all of DSP's products and services available electronically through linkages in the knowledge management portal proposed by the Air Force-led IPT.

The following recommendations provide an overall framework for the actions discussed in Section 3:

Recommendation 1: Determine which non-electronic products and services would add the greatest value if converted to electronic form.

- Conduct a survey to determine customers' needs for standardization documents in electronic format.
- Determine value of the non-electronic documents, including frequency of use and desired format.
- Determine the conversion priority sequence based on customer feedback.
- Determine which products or services, if any, to eliminate from the inventory.

Recommendation 2: Initiate a product/service conversion process based on the greatest return on investment (value) to DSP and its customers.

- Establish the process necessary to convert products into electronic format.
- Convert desired non-electronic documents into electronic format, and delete obsolete or unused documents from the inventory.
- Where appropriate, implement product improvements in conjunction with the conversion process.
- Integrate the converted electronic products into the DSP's information exchange system portal.

Recommendation 3: Conduct periodic surveys to gather customer feedback on which products and services to provide in the future and make determinations consistent with the best value strategy.

- Update survey instrument periodically to reflect organizational changes and documents shifted to electronic format.

- Conduct follow-on surveys to assess changing customer needs, attitudes, and priorities.

Recommendation 4: Incorporate new standardization products and services into the electronic/non-electronic decision process, applying the best value strategy.

- Provide opportunities for customers and users to identify new standardization products and services.
- Determine value of new product/service by assessing customer value.
- Based upon value and intended use, formalize new product/service in appropriate format.
- Integrate new products into the DSP's information exchange system portal.

Section 3. Details of the Strategy

3.1 Task Approach

The DSP's products and services are focused on improving interoperability and logistics readiness, and decreasing total ownership cost, all of which are crucial themes of DoD's Joint Visions 2010 and 2020. In developing this strategy, the IPT took as a basic premise that expanding the number of DSP's electronic products would contribute to those over-arching objectives. Increasing the number of DSP products and services available to customers electronically is the focus of this task. Therefore, the strategy is based on (1) converting DSP products that are currently in non-electronic formats into electronic formats and (2) extending the holding of electronic products to include some that have not been traditionally under DSP management, with the caveat that such an approach requires that there is recognized customer demand for the product or service.

Customer requirements should determine which products and services are available in electronic formats and the priority order for converting, creating, or acquiring them. The DSP must obtain customer feedback to determine:

- Which DSP products and services provide the most value to customers?
- Which DSP products and services need improvements?
- What is the correct priority order for converting products to electronic format?
- Which DSP products/services should remain available in non-electronic form?
- Should some products/services be deleted or archived?

One of the ways the DSP can seek answers to these questions is by administering a survey. To assist the DSPO in crafting an effective survey instrument and conducting the survey process, the IPT developed or identified the following: (1) lists of DSP electronic (Appendix A) and non-electronic (Appendix B) standardization products and services; (2) a matrix of the customers and end users of standardization products and services (Appendix C); (3) guidance for planning and conducting surveys (Appendix D); (4) a sample web-based survey instrument (Appendix E); and (5) a flow diagram for developing and conducting customer surveys (Appendix F).

3.2 Strategies for Increasing the Number of Electronic Products and Services

There are four primary sources for new DSP electronic products:

- DSP products that are not currently electronic
- New DSP-created products that do not currently exist
- Existing standardization products currently outside the DSP in either electronic or non-electronic formats
- New standardization products created outside the DSP in either electronic or non-electronic formats.

A fifth approach that is a natural outcome of dialogue with customers regarding DSP products and services will also be discussed: Improving DSP products and services that are already available in electronic formats.

3.2.1 Existing DSP Products not Currently Available in Electronic Formats

This category involves converting non-electronic to electronic products. Conversion should occur only if there is a customer need, conversion is economically and technically feasible, and the value of having the product in electronic form justifies conversion. Figure 2 describes a conversion process flow.

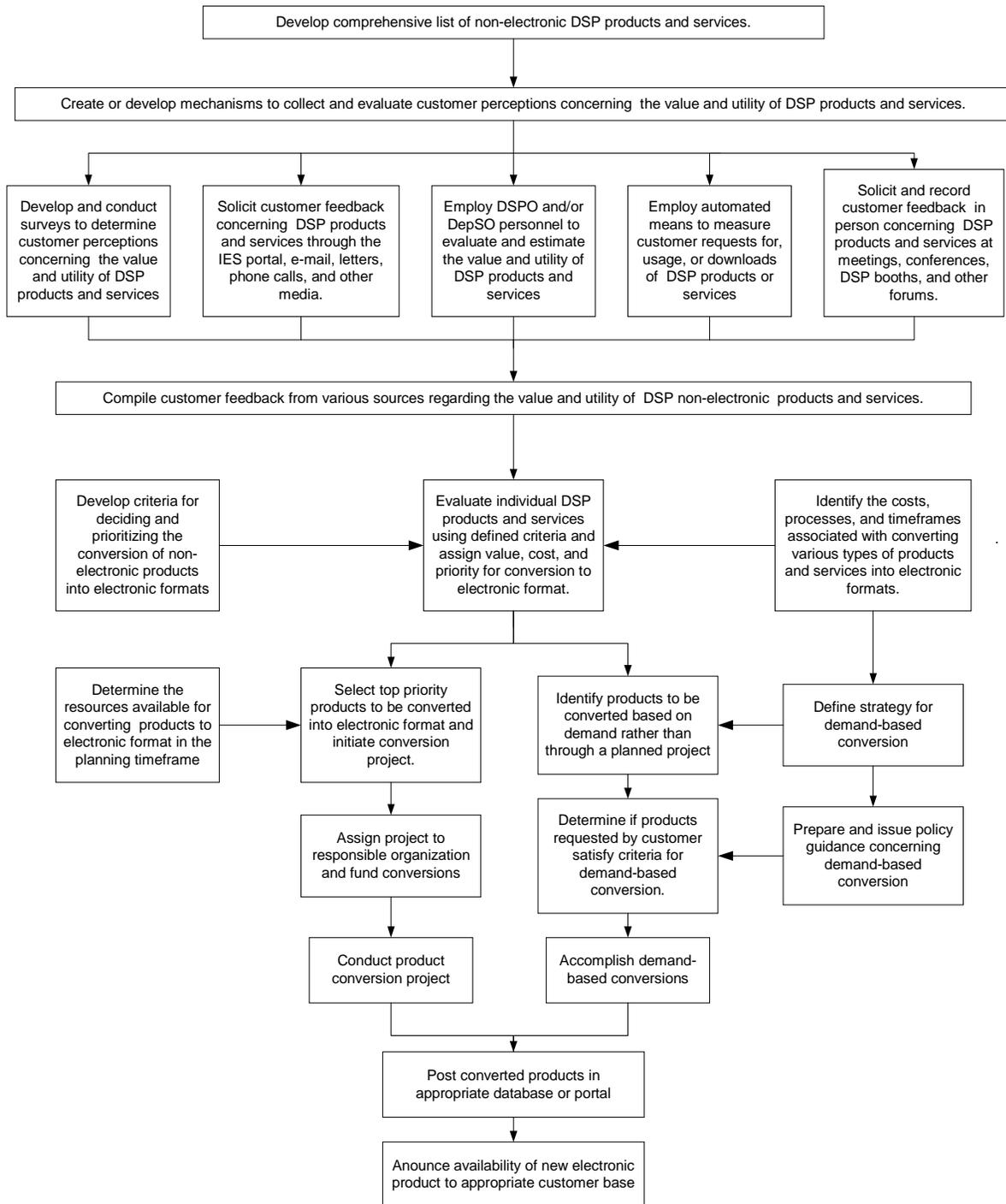


Figure 2. Converting Existing Non-electronic Products

3.2.2 New DSP Products that Do Not Currently Exist

This category involves designing and developing new products in electronic form to satisfy an identified customer requirement. New products should be developed when requirements are clearly defined and the value of having the new product outweighs the cost of not having the it. Figure 3 describes a process flow for creating new electronic products.

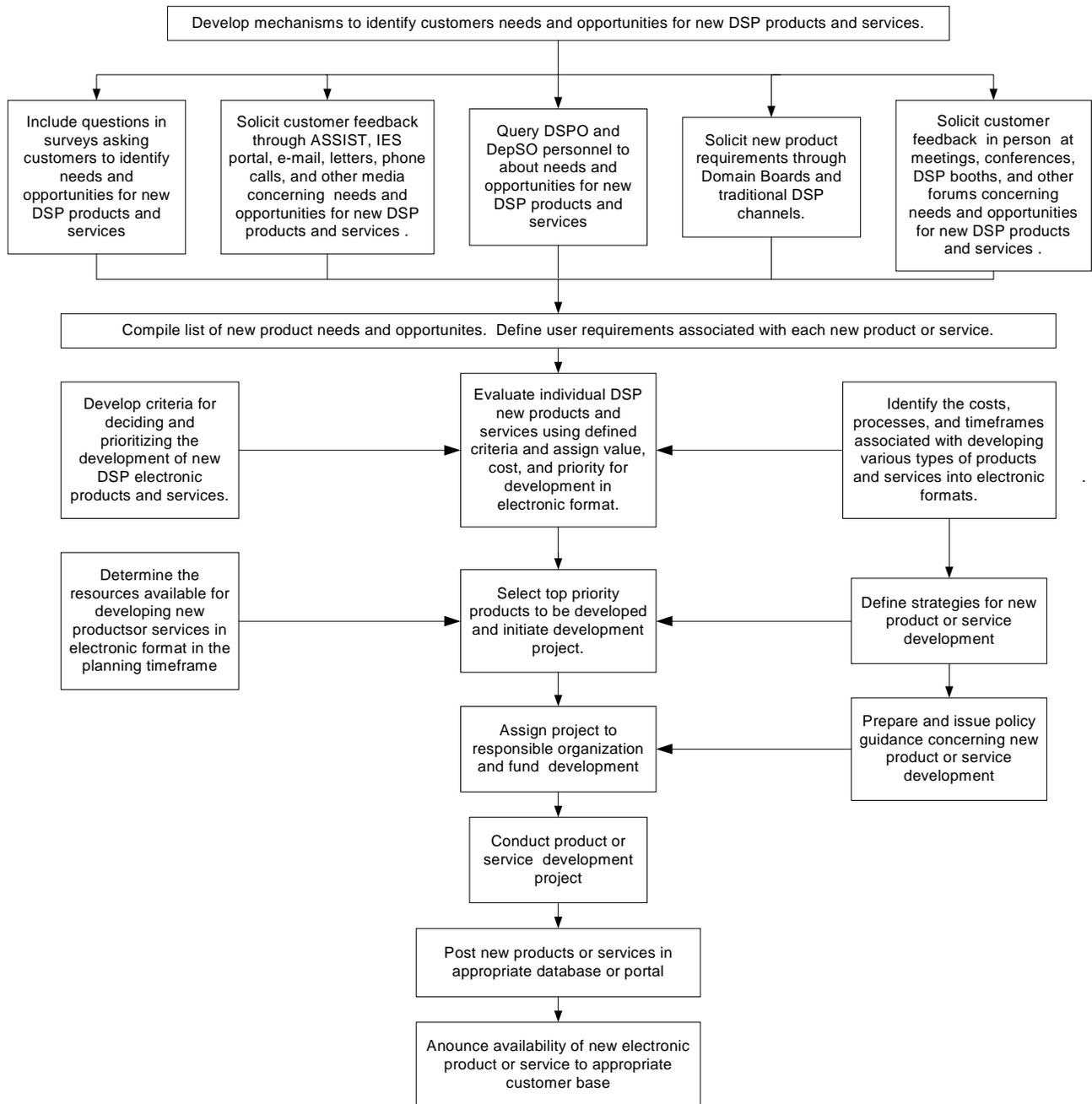


Figure 3. Developing New DSP Products and Services

3.2.3 Existing Standardization Products Currently Outside the DSP

This category involves identifying, evaluating, and accepting non-DSP standardization products and making them available or accessible electronically through the knowledge management portal. Non-DSP products can be accepted into the family of DSP standardization products based on appropriate screening criteria, economic and technical feasibility, expected value to customers, and willingness of the parent organization to make the products available for distribution to the wider standardization community. Some criteria for deciding and prioritizing which non-DSP products and services to bring into the DSP family are:

- Does the document satisfy the DSP definition of a standardization document?
- What does it cost the owner to maintain the document?
- Can the document be used for another standardization application?
- Does the document provide useful information for other applications?
- Does the owner agree to having the document merged into the DSP family?
- Will this document have continued application to future standardization needs?
- What additional cost would the DSP incur by inducting this document into the DSP family of standardization documents?

To facilitate bringing non-DSP products into the DSP family, the DSPO can:

- Make portal-based standardization document creation tools available to the creators of the non-DSP standardization documents.
- Make ASSIST database resources available for the storage and distribution of the non-DSP standardization documents.
- Provide links between the DSP portal and the other databases that contain the non-DSP standardization documents.
- Establish partnership agreements between the DSP and the sources of the non-DSP documents regarding document distribution and maintenance.
- Provide value-added categorization, characterization, and interpretive services to assist customers in finding, selecting, and employing the non-DSP documents.
- Monitor the hits and downloads of the non-DSP documents to help determine their value to customers.
- Include questions about the non-DSP documents in future customer surveys.
- Establish a capability within the DSP portal to enable customer identification of needs or opportunities for new standardization products or services.

Figure 4 describes an evaluation and acceptance process flow for non-DSP products.

Strategy for Increasing Electronic Products and Services

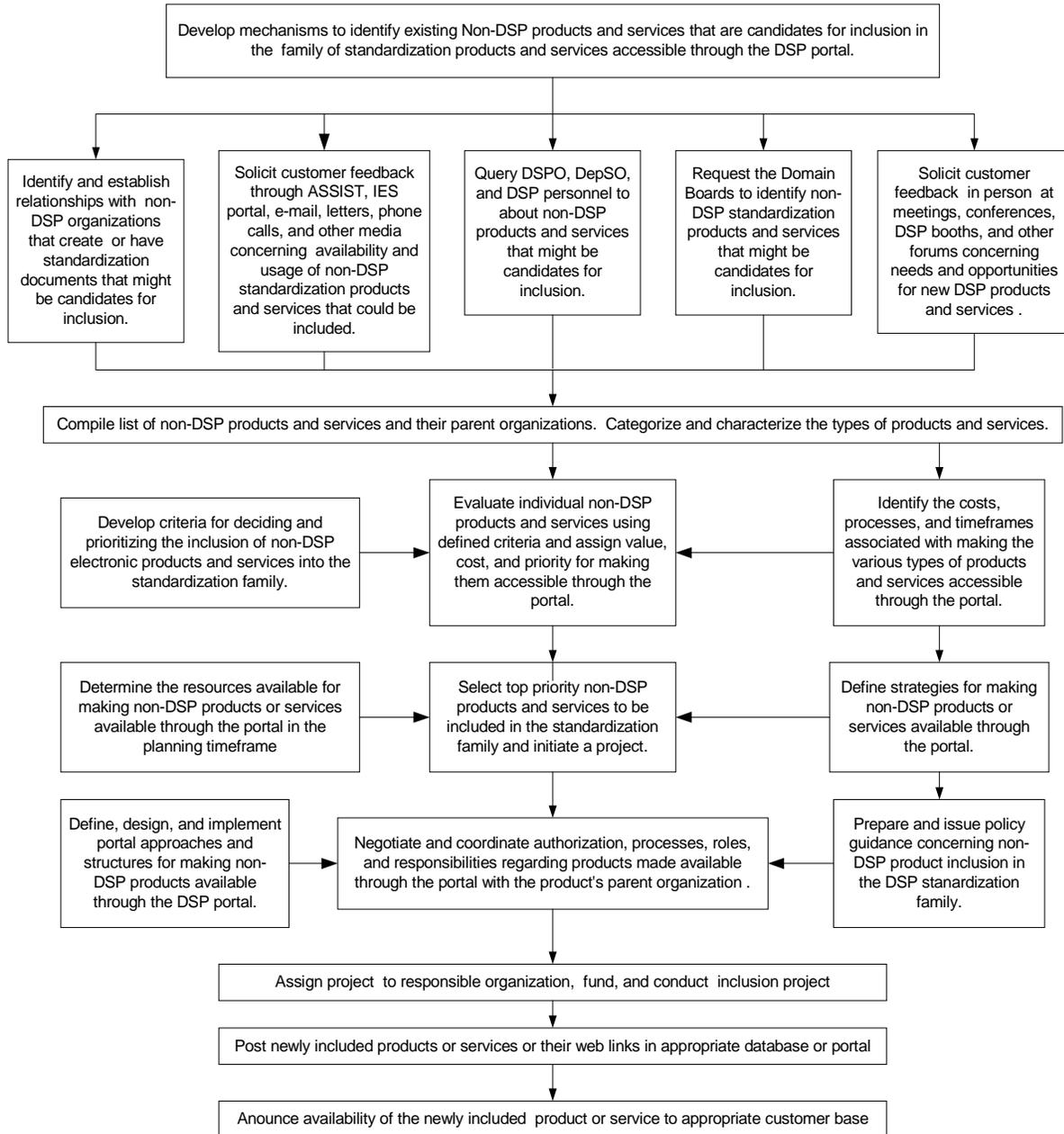


Figure 4. Making Existing Non-DSP Products Available through the Portal

3.2.4 New Standardization Products Created Outside the DSP

This category involves developing protocols and channels for identifying, evaluating, and accepting new products that will be created in the future by organizations that already have some of their products accepted and included in the DSP family of standardization products. This category also addresses identifying new organizations entering the standardization community and considering their products for inclusion in the DSP family of standardization products. Figure 5 describes an evaluation and acceptance process flow for new non-DSP products.

Strategy for Increasing Electronic Products and Services

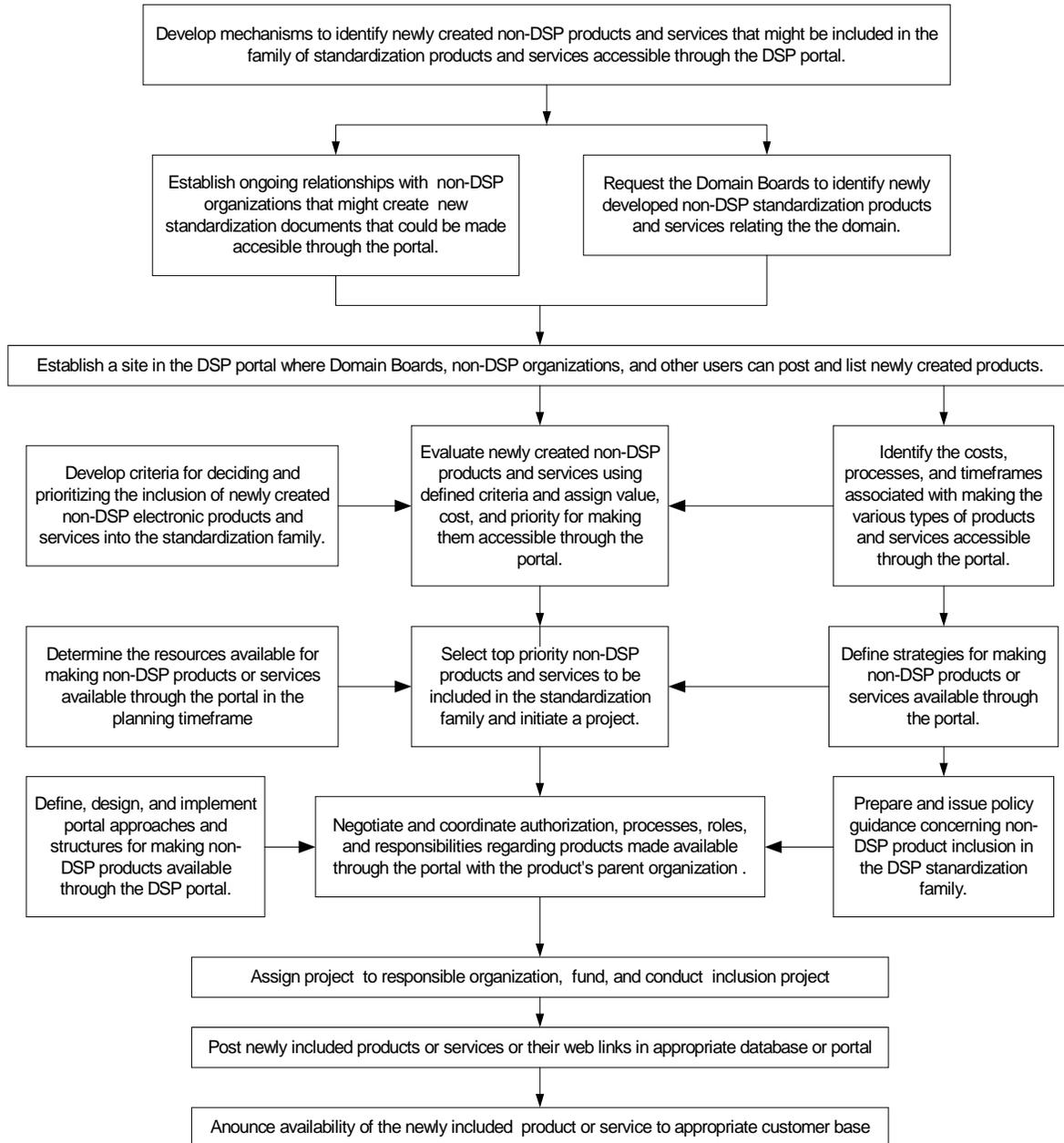


Figure 5. New Standardization Products Created outside the DSP

3.2.5 Improving DSP Products Already Available in Electronic Formats

This category involves identifying needed improvements to existing DSP products and for initiating the improvement effort. This process can also apply to non-DSP products when improvement is possible through agreement with the product's parent organizations. Figure 6 describes an improvement process flow for existing DSP and non-DSP products.

Strategy for Increasing Electronic Products and Services

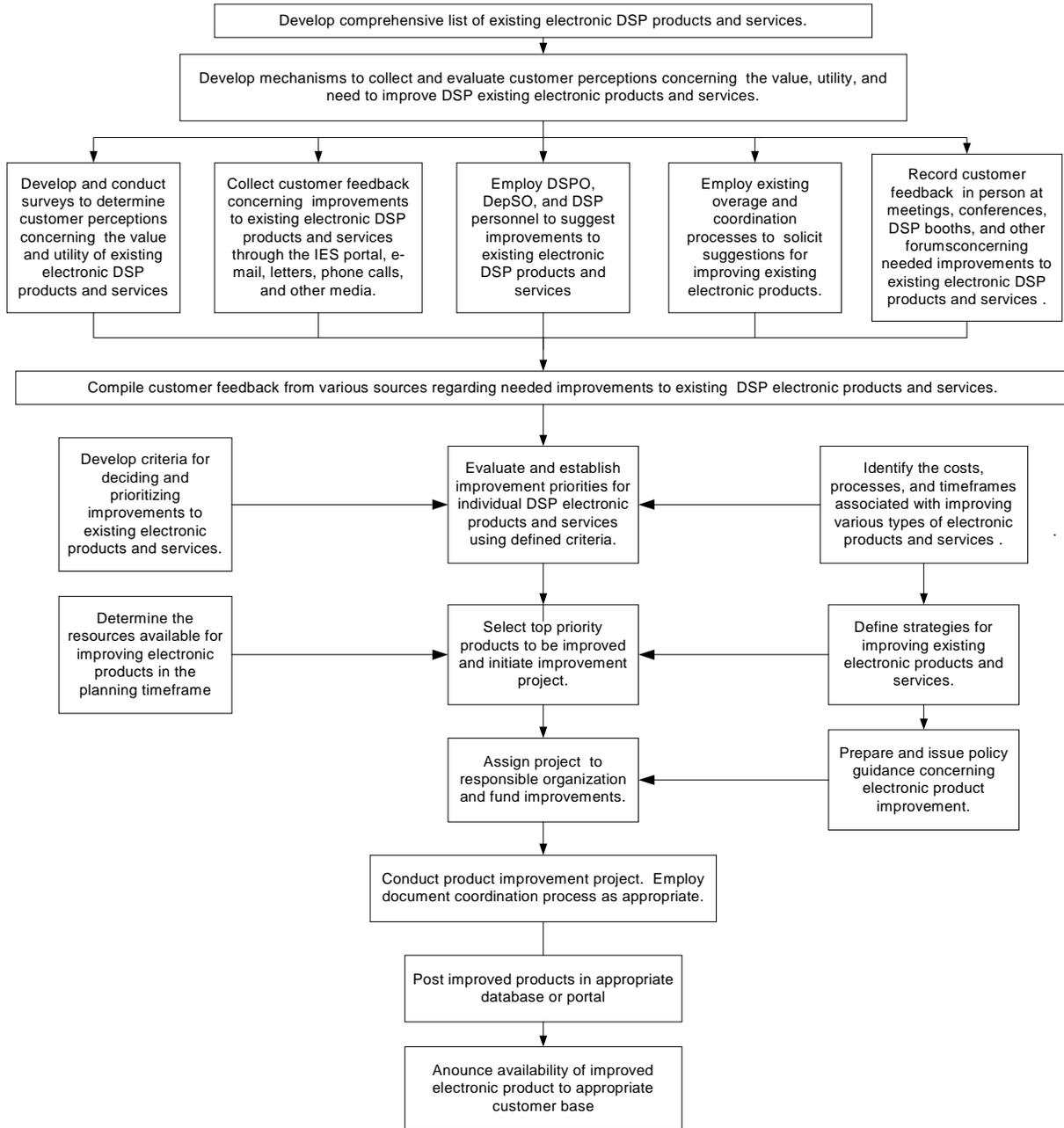


Figure 6. Improving DSP Products already Available in Electronic Formats

3.3 Value of Solutions to DSP, the Customer Community, and DoD

Standardization products and services in electronic format facilitate effective communications among standardization stakeholders and contribute to DoD's strategic interoperability and logistics readiness objectives. The increased availability of electronic standardization products and services through the portal will provide benefits to individual customers, customer organizations and programs, the DSP, and DoD:

3.3.1 Customers Benefits:

- Easy and rapid access to standardization products and services
- Single source shopping for engineering solutions
- A richer source of standardization products
- A more complete and comprehensive collection of standardization knowledge accessible through a single portal

3.3.2 DSP Benefits:

- Greater value placed on standardization products and services
- Better understanding and integration of the standardization community
- Improved means of monitoring changes in the standardization community
- Improved alignment between the DSP and the current DoD acquisition business model

3.3.3 DoD Benefits:

- Wider use of non-DSP standardization products representing a substantial DoD investment
- Cost savings through greater reuse of available off-the-shelf standardization products and a decrease in engineering time to develop solutions
- Time savings from more efficient product development cycle
- Better information through access to the full range of standardization products available for engineering solutions.
- Wider range of standardization information readily available to support decisions.

3.4 Conclusion

Section 3 of this deliverable provides recommendations that, from an overall perspective, provide a framework for making decisions about increasing the number of DSP products and services in electronic format. Four primary sources of new DSP products and services were identified and process flow diagrams for each provided. Key factors in decisions to convert, create, or acquire these products and services are:

- Criteria for adequately evaluating and prioritizing decisions to convert, create, or acquire particular products and services
- Availability of resources, both monetary and manpower, to evaluate and convert, create, or acquire the products or services.

Within each of the strategies involved with attracting standardization products and services from the four key sources, there is a variety of possible applications and values that could fit any of the specific instances. The key issue for all of these alternatives, however, is that the approach using value as perceived by the customer and demand based on this value approach is the cheapest and wisest way to bring DSP products and services into the electronic marketplace.

Appendix A

Electronic DSP Products and Services

General categories of DSP standardization products and services available in electronic format are listed in this appendix. While this list does not provide a detailed accounting of all DSP standardization documents, products, and services, it identifies key DSP guidance documents as well as the websites where DSP standardization documents, products, and services can be accessed. This appendix also contains some non-DSP standardization websites where electronic standardization documents and products that fall outside the DSP can be accessed.

A.1 STANDARDIZATION DOCUMENTS

DoDISS documents: Most active and inactive federal and DoD specifications and standards are available, as well as hyperlinks to non-government documents and NGS bodies. Some canceled or superseded documents are also available in Adobe PDF.

Location: <http://assist.daps.mil/>

DoDISS search: Link to DoDISS database found on the DTIC web site that provides a unique search capability.

Location: http://stinet.dtic.mil/str/dodiss4_fields.html

DD Form 1426 – Standardization Document Improvement Proposal: PDF file that can be edited. Allows comments to be sent directly to the Preparing Activity via e-mail.

Location: <http://www.dsp.dla.mil/>

A.2 POLICY DOCUMENTS, GUIDANCE, AND GENERAL INFORMATION

Policy Memos and Guidance: Secretary of Defense policy memos, USD(AT&L) policy and guidance, numbered policy memos (99-3, etc), other DSP guidance, Air Force guidance, and GSA policy.

Location: <http://www.dsp.dla.mil/>

DoD Instruction 4120.24 and DoD Manual 4120.24-M: Defense Standardization Program (DSP) policies and procedures.

Location: <http://www.dsp.dla.mil/>

Defense Standardization Journal: Issues within the last 12 months available for viewing online or downloaded. The Standardization Newsletter dating to the beginning of standardization reform is archived for downloading.

Location: <http://www.dsp.dla.mil/>

DOD Joint Technical Architecture (JTA): Documents and information related to the JTA.

Location: <http://www-jta.itsi.disa.mil/>

MIL-HDBK-512: Parts Management.

Location: <http://www.dsp.dla.mil/>

MIL-STD-961: Standard Practice for Defense Specifications.

Location: <http://www.dsp.dla.mil/>

MIL-STD-962: Standard Practice for Defense Standards and Handbooks.

Location: <http://www.dsp.dla.mil/>

MIL-STD-963: Data Item Descriptions (DIDs)

Location: <http://www.dsp.dla.mil/>

Modernization Through Spares (MTS)/Continuous Technology Refreshment

(CTR): Topics, strategies, and policy and guidance regarding MTS/CTR and its implementation within the Army.

Location: <http://www.amc.army.mil/amc/rda/milspec/mtslinks.html>

SD-2: Handbook for buying commercial and non-developmental items.

Location: <http://www.dsp.dla.mil/>

SD-5: Market Research.

Location: <http://www.dsp.dla.mil/>

SD-6: Provisions Governing Qualification (Qualified Products List)

Location: <http://www.dsp.dla.mil/>

SD-10: Guide for Identification and Development of Metric Standards

Location: <http://www.dsp.dla.mil/>

SD-15: Performance Specification Guide

Location: <http://www.dsp.dla.mil/>

SD-18: DSP Guide for Part Requirements and Application.

Location: <http://www.dsp.dla.mil/>

Single Process Initiative (SPI): General information concerning SPI.

Location: <http://www.acq-ref.navy.mil/>

Specification Writing Helps: Best practices and practices to avoid when preparing performance specifications and issues related to MIL-PRF/MIL-DTL specifications.

Location: <http://www.amc.army.mil/amc/rda/milspec/writhelp.html>

Status of MilSpec Reform Actions: Includes list of military standardization documents exempted from the waiver process.

Location: <http://www.dsp.dla.mil/>

A.3 DATABASES

ASSIST: Acquisition Streamlining and Standardization Information System Database

SD-1: Database of standardization points-of-contact and FSC and Area Assignments.
Location: ASSIST Online.

SD-4: Database of DSP standardization Projects.
Location: ASSIST Online.

Data Item Descriptions (DIDs): Database of DIDs including information concerning the status, version, and source document.
Location: ASSIST Online.

Technical Committee Participation (TCP) Database: Database containing official information about DoD employees who participate on technical committees of non-Government Standards (NGS) bodies. Allows DoD employees to register their participation.
Location: <http://dsp.dla.mil/sd11/default.htm>

Acquisition Reform (AR) Management Data: Data and statistics related to acquisition reform activities.
Location: ASSIST Online.

ODC/HAZMAT Data: Data related to ODCs and HAZMATs referenced in DoD documents.
Location: ASSIST Online.

International Standardization Agreements (ISAs): ISA database on the DSP Web site provides a way to locate and contact DoD representatives on various committees for International Treaty Organizations. Also, allows DoD personnel to register as participants.
Location: <http://www.dsp.dla.mil/isa/default.asp>

Government-Industry Data Exchange Program (GIDEP): Provides government and industry participants electronic access to the following types of data: engineering, failure experience, metrology, product information, reliability and maintainability, and urgent data requests. The following is a sampling of the documents available in GIDEP: nonstandard parts documents, process specifications, product change notices, product information notices, technical manuals, and test reports.
Location: www.gidep.corona.navy.mil/

A.4 AUTOMATED TOOLS

SPECRITE: Tool for preparing performance-based specifications. It uses a template for electronic module specifications. Must customize templates for other commodities.

Location: www.acq-ref.navy.mil/specright/specrite32v21.zip Also can be downloaded from Turbo SpecRight!

ASSIST Project Module: Initiate and update standardization projects electronically. Completion of project by DAPS.

Location: <http://assist.daps.mil/project>

ASSIST-EDS: Automated submittal of standardization documents to DAPS.

Location: <http://assist.daps.mil/eds>

ASSIST Alert Service: Automatically identifies when a document of interest has been changed or added to ASSIST and will electronically notify participating users when changes occur.

Location: ASSIST Online

A.5 TRAINING RESOURCES

SD-17: Computer-based training tool available on CD-ROM that helps engineers, logisticians, and other technical and acquisition personnel to decide when - and when not – to standardize items and systems. Available from DAPS.

Turbo SpecRight: Provides guidance on specification policy. Modules include: Developing a new specification, converting a MIL SPEC, market research resources, general development guidance, and specific development guidance.

Location: <http://www.acq-ref.navy.mil/specright/index.htm>

Appendix B

Non-Electronic DSP Products and Services

Historical military and federal standardization documents. Many are not currently available on ASSIST.

Non-Government DOD -adopted standards.

DAU standardization courses. PQM 103 - Defense Specification Management is an example.

Electronic process for submitting DD Form 1426 - Standardization Document Improvement Proposals (DD Form 1426). The form is available electronically, but there is no formal process for electronic submission or disposition of proposals.

Project number assignment

Transfer of assignments (DD Form 1865)

Standardization document number assignment

International Standardization Agreements

Document usage statistics. Examples are:

- How many procurements use a specific standardization document?
- Which system(s) use a standardization document?
- How many NSNs are on a system?
- How many NSNs under a specification?
- What users are downloading the standardization documents?

Item reduction studies. Electronic format is under development.

Appendix C

Customer Database

A developmental database of customer information is provided on a diskette accompanying the Army-led IPT's deliverable, *Strategy for Increasing Customer Awareness and Involvement*. The database is partially populated to serve as an example of what can be done to manage customer information. Decisions as to methods and resources for completing the population of the database are left to a DSPO-DepSO decision-making process.

The database is designed for growth in both the information included and the number of records entered. Currently, there are in excess of 725 records in the database.

The IPT defined a number of fields to provide useful information about the DSP's customers; other fields can be added as needed. Existing data fields are:

- ID Number
- Group (e.g., OSD, CINC, Commodity Command)
- Service (Army, Navy, Air Force, DLA, Joint)
- Organization (e.g., SECDEF, AMC MSC)
- Organizational URL
- Incumbent's Name
 - Position
 - Email Address
 - Mailing Address
 - Commercial Phone Number
 - DSN Number
 - FAX Number

Appendix D

Seven Basic Steps for Planning Surveys²

Survey Plans

LMI generally uses seven basic steps for planning its customer . . . surveys, as follows:

1. Develop purpose, objectives, and goals
2. Identify the population and select survey participants
3. Select the survey medium
4. Design the survey instrument
5. Obtain survey clearance from the Office of Management and Budget (OMB) for public surveys
6. Pretest and revise the survey instrument
7. Plan for data entry and select analytical tools.

Each of these planning steps is outlined below.

Step 1. Develop Purpose, Objectives, and Goals

Everything a federal agency does involves a process. Every process has one or more inputs (e.g., facilities, management, staff, customer applications, equipment), various outputs and levels of quality (e.g., customer application approvals/denials), and a number of steps (e.g., evaluation criteria and review procedures) that transform the inputs into outputs and quality levels. Mechanisms for capturing feedback from customers and suppliers may also help to guide the transformation of inputs into outputs. Figure 2-1 illustrates a simple process.

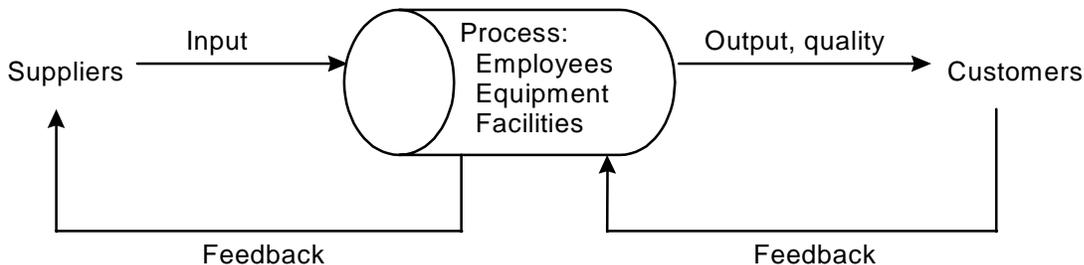


Figure 2-1. Simple Process

Before a performance survey is undertaken, the process under consideration must be delineated. When the process is defined, the stakeholders can easily be identified (e.g., employees, customers, and others).

² "Seven Basic Steps for Planning Surveys" is reprinted from *Government Manager's Guide to Satisfaction Surveys and Performance Improvements*, LMI, Larry Schwartz, August 1999, Chapter 2. (Appendix and reference numbers and letters in this attachment refer to appendices and references included in the full LMI report.)

For customer surveys, it is important to include all of the external and internal customers served by the process and all of the major process steps in the flow chart. Such flow charts will probably be considerably more complex than the one in Figure 2-1. The survey questions should be based on the concerns of the various external customers and cover the process steps that are visible and familiar to those customers. Process steps invisible to the external customer, as well as concerns of internal customers, will not be reflected in the survey instrument, but their specification will still be very helpful for undertaking improvement initiatives to raise customer satisfaction. Similarly, with employee surveys, the process also reflects their areas of concern and interaction with customers. The purpose, objectives, and goals of the effort will determine which groups of people and parts of the process should be involved in the survey effort.

Step 2. Identify the Population and Select the Survey Participants

The next step in the survey process is to identify the population and select the survey participants from that population. The population may include internal customers, external customers, employees and—in some cases—other stakeholders in the process. The National Partnership for Reinventing Government (NPR) has suggested that government managers concentrate on particular customer groups. NPR believes that government managers should first concentrate on their external customers (as opposed to internal organizational customers) for assessing satisfaction levels. Further, NPR gives a higher priority to surveying these external customers having direct contact with the agency providing the product or service who are outside of the government than it does to surveying customers inside the government. For example, social security recipients—primarily elderly and disabled Americans—as direct customers of the Social Security Administration would have a high priority.

On the other hand, some agencies have direct external customers inside but not outside the government. For example, operational Army units are customers of Army maintenance depots for the maintenance and repair of tanks and jeeps, but the depots may have no direct customers outside the government.³ Each agency should use this NPR guidance to determine its primary customer focus for assessing and improving satisfaction with its products and services.

With an employee survey, the manager must decide which groups of employees to survey. (e.g., the whole office or only particular sections) and which job categories are relevant.

Sampling the Population

Some government managers have relatively large customer or employee populations, perhaps exceeding 100,000 in number, but most have considerably smaller customer and employee populations. To reduce the cost of conducting surveys, government managers can select a sample of survey participants from their customer populations. However, to obtain reliable data, the sample size must be representative of the population. Also, at least 50 percent of the survey participants should answer the survey

³In general, the Department of Defense has direct customers inside but not outside the government. Other agencies may also find that their customers are all or nearly all inside of the government.

to ensure that the full range of opinions is obtained. Otherwise, the survey results may very well be biased.

Moreover, if the government manager believes that different types of customers or employees are likely to provide differing survey answers, then it is important to stratify the population by different types (strata) and draw a sample from each stratum. Such a stratified sampling procedure will ensure that the survey participants are representative of the diverse types of customers or employees in the population.

The government manager should go to great pains to ensure that the population listing is complete and current. An incomplete mailing list will not give each member of the population an equal chance of being selected for participation in the survey. The result is that the survey participants selected may not truly represent the population, calling into question any inferences about the population you may draw from the survey. Equally troublesome is a mailing list that is not current, because many people on it may no longer be relevant or may no longer be at the same address. If so, you will record a low response rate, calling into question whether the survey has reflected the full range of opinions. The government manager must start early to compile a complete and current listing of the population.

Determining Sample Size

The formulas for selecting appropriate sample sizes depend upon the type of data sought from the survey. Data can be expressed in proportions or percentage form (e.g., percent satisfied or dissatisfied in a particular area). Data can also be reported in terms of levels, such as number of waiting days in an approval process.

Proportions

Proportional data are most widely used for expressing survey results. If the survey data are in terms of proportions (e.g., the proportion of respondents extremely satisfied with the product/service), then Table 2-1 illustrates the sample sizes for selected populations and margins of error at the 95 percent confidence level. For example, if the customer population is 1,000, having a sample size of 500 implies a 95 percent certainty that the true proportion of the total population's answers to any survey question would be between plus or minus 3 percentage points of the estimated sample proportion. Thus, if the survey showed that 75 percent of the surveyed customers were satisfied with the service, we would be confident 95 percent of the time that between 72 and 78 percent (75 ± 3) of all customers would be satisfied.

Assuming a response rate of 55 percent, or 278 responses from the 500 survey participants contacted, the margin of error would actually be plus or minus 5 percentage points with 95 percent certainty. Note that as the customer population becomes larger, the required sample size for any level of precision rises less than proportionately and eventually does not depend at all upon the size of the population.

For populations between 100 and 500, it is best to take a 50 percent sample based on the hypergeometric distribution. For populations of less than 100, it is generally best to take a census, surveying the entire population.

Table 2-1. Sample Sizes for Estimating Proportions with 95 Percent Confidence

Population size	Sample size ^a	
	3% margin of error	5% margin of error
500	250	218
1,000	500	278
5,000	880	357
10,000	965	370
100,000	1,056	383
500,000	1,065	384

^a For populations of 1,000 or less, sample sizes are based upon the hypergeometric distribution. For populations exceeding 1,000, sample sizes are based upon the normal distribution.

Levels of Variables

However, if the survey variables are in terms of levels rather than proportions—such as average waiting days or average years of experience—then Appendix C should be consulted for determining the appropriate sample size.

Selecting the Sample

It is one thing to determine the appropriate sample size; it is another to select a representative sample from the population. There are two basic methods for selecting representative samples: simple random sampling and systematic random sampling. Simple random sampling assigns a unique number to each member of the population, and a table of random numbers is used to select one member at a time until the desired number of survey participants are selected.

Systematic random sampling draws every *n*th one from a list of names that is alphabetized or otherwise sorted. To ensure that every member has an equal chance of being drawn, the starting point should be randomly selected. Systematic random sampling yields comparable and sometimes even greater representation than simple random sampling, and it is usually easier to accomplish than working with a table of random numbers.⁴

When a sample using stratified groups is being selected, simple random sample or systematic random sampling can be used within each stratum. Stratified sampling can be disproportionate, with an equal number being sampled from each stratum, or it can be proportionate, where the number sampled corresponds to the relative size of the groups in the population.

⁴Snedecor and Cochran, *Statistical Methods*, Seventh Edition, Ames, Iowa: The Iowa State University Press, 1980.

Step 3. Select the Survey Medium

In the past, three kinds of media have been used successfully to obtain customer attitudes and perceptions: mail, telephone conversation, and in-person interviews. A fourth survey medium, Web-based surveying, is not yet universal, but it has been shown to be an excellent method of gathering survey data under the right conditions. Table 2-2 summarizes some of the key advantages and disadvantages of each survey medium.

Table 2-2. Factors for Selecting Survey Media

Medium	Access	Maximum suitable time	Relative cost ^a	Relative response rate ^b
In person	Near universal	45 minutes	Highest	Highest
Telephone	Near universal	15 minutes	Intermediate	Intermediate
Mail (paper)	Universal	15 minutes	Lower	Lower
Electronic (Web)	Not universal	15 minutes	Lowest	Lowest

^a Based on a sample size of 1,200; costs would be higher for Web with smaller populations.

^b Without follow-up communications.

Under the right circumstances, telephone conversations and in-person interviews are good media for obtaining information on customer perceptions and attitudes. Telephone surveys are useful when the results are needed relatively quickly, such as within days or weeks. They are more appropriate when the questions are relatively brief, because the quality of telephone data often deteriorates when the conversation goes on too long. Also, it is difficult to establish credibility over the phone (as is not the case with mail surveys or in-person interviews, which provide an opportunity to present the reasons and procedures for the survey effort). On the other hand, in-person interviews are useful for administering long and complex questionnaires, and for ensuring that the survey respondents follow instructions. But the process of administering in-person interviews can be very expensive in terms of time and cost.

Because of confidentiality issues, telephone surveys are not recommended for conducting employee surveys. Most employees will generally not be as candid with a telephone interviewer as they will in a mail or Web survey, and it may be harder to contact respondents over the phone because of “gatekeepers” such as secretaries and voice mail.

The government uses the mail more than other media for conducting surveys. Mail surveys can almost universally reach customer survey participants and are relatively cheap in comparison with telephone or in-person surveys. To obtain acceptable response rates, however, mail surveys require that participants be contacted several times with specially designed materials.

Use of the Internet to conduct Web-based surveys is relatively new. The survey research field is employing the Web to gather data on a daily basis. However, the Web is not yet universal enough to use for general population surveys. Currently the Web is most useful for conducting surveys with a known population listing, such as customers and employees. Utilizing the Web can avoid costs of printing, mailing, and data entry.

We have calculated that, with samples of 250 or more, these savings more than offset the cost of using the Web. However, our experience has also shown that often using the Web will not, ultimately, be faster than using the mail. Although using the Web shortens the time required for sending and receiving communications and for acquiring the data, more contacts are necessary to receive an adequate number of responses.

When choosing to use the Web, accessibility is the key issue. For Web-based surveying to be considered, all of the survey participants need to have access to the Internet. It is also essential for participants to all have e-mail so that survey communications may be delivered electronically as well.

Step 4. Design the Survey

Steps to Follow

To ensure a comprehensive, relevant, and useful survey, government managers should use a checklist like the following to prepare themselves for formulating questions:

1. Have I delineated the process?
2. Have I identified the elements of the process that have raised issues or problems?
3. Have I identified all of the customers, employees, and other stakeholders of the process?
4. What actions are the stakeholders prepared to take for making improvements?
5. Are the survey objectives specific enough to provide concrete information for making improvements?

Using the five-point checklist should ensure that you prepare yourself properly for formulating the survey. Checklist questions 1 and 2 are designed to ensure that you reflect the entire process in the survey, while emphasizing the areas that have presented the most problems. Questions 3 and 4 are designed to ensure that the perspectives of all of your population are included, so that the survey explicitly takes into account all performance aspects and possible tradeoffs. Finally, question 5 is designed to ensure that answers to the survey questions will be specific enough to identify improvement targets that are realistic and attainable.

General Survey Design Principles

The Office of Management and Budget requires that everything possible be done to minimize nonresponses to surveys. If a significant number of nonrespondents have markedly different views than those who have responded, then the survey results will be incomplete and may very well be biased. Because it is difficult to determine whether opinions of nonrespondents do in fact differ, it is prudent to adopt procedures for minimizing survey nonresponses in the first place. Two procedures have been particularly useful for improving mail survey response rates: survey booklets and multiple contacts.⁵

⁵See D.A. Dillman, *Mail and Telephone Surveys: The Total Design Method*, New York: John Wiley & Sons, 1978.

Survey design entails more than just designing the survey instrument; other materials may include cover letters or transmittal messages and follow-up communications. All of these communications contribute to a higher response rate by helping to relay the intent of the survey, providing reasons for completing it, and explaining how the results will be used. Survey communications should include a signatory who is well known to the survey participants and whose name will evoke positive compliance in completing the survey.

Survey research has shown that a bulky mail survey instrument (for example, 8 ½” × 11” sheets stapled together) invites nonresponses. To overcome the potential for nonresponses that results from using a bulky survey instrument, we use more compact survey booklets (7” × 8 ½”). The 7” × 8 ½” survey booklet, among other things, gives the impression that the survey is neither very time-consuming nor burdensome to answer. Table 2-3 summarizes key design principles for structuring a survey instrument and related material.

Table 2-3. Key Survey Design Principles

Principle	Comment
Explain purpose on front cover for a mail survey, in the opening dialogue paragraph of a telephone survey, or on the first page of a Web survey	Obtains commitment from participants
Introduce interesting and easiest questions first	Reinforces participant commitment
Place general satisfaction questions prior to specific item questions	Reduces bias in the overall answers
Group related elements of a process together	Makes concentration on questions easier
Place background questions near survey end	Reduces likelihood of survey non-response
Conclude survey with open-ended comment section	Invites participants to elaborate on all survey answers
Have survey transmittal letters signed by management	Shows management interest
Provide return envelopes and postage for mail surveys	Lowers burdens on survey participants

Figure 2-2 shows the front cover of the survey booklet for the Department of Health and Human Services (HHS) Procurement Employee Survey that LMI developed (the entire survey may be found in Appendix D). This cover contains a basic statement of the purpose of the survey, but it is not a substitute for the more extensive explanation of the survey’s purpose that would be included in the letter transmitting the survey to the participants. Appendix E is a copy of the initial letter used for transmitting the survey booklets to the participants. The cover of the survey booklet should also provide general instructions for completing the survey, but it, too, is not a substitute for the specific instructions that are necessary and that should accompany each survey question. For recognition purposes, the survey booklet’s cover also should display either a picture

illustrating the theme of the survey, an organizational logo, or (as in the case of Figure 2-2) a combination of words and an image.

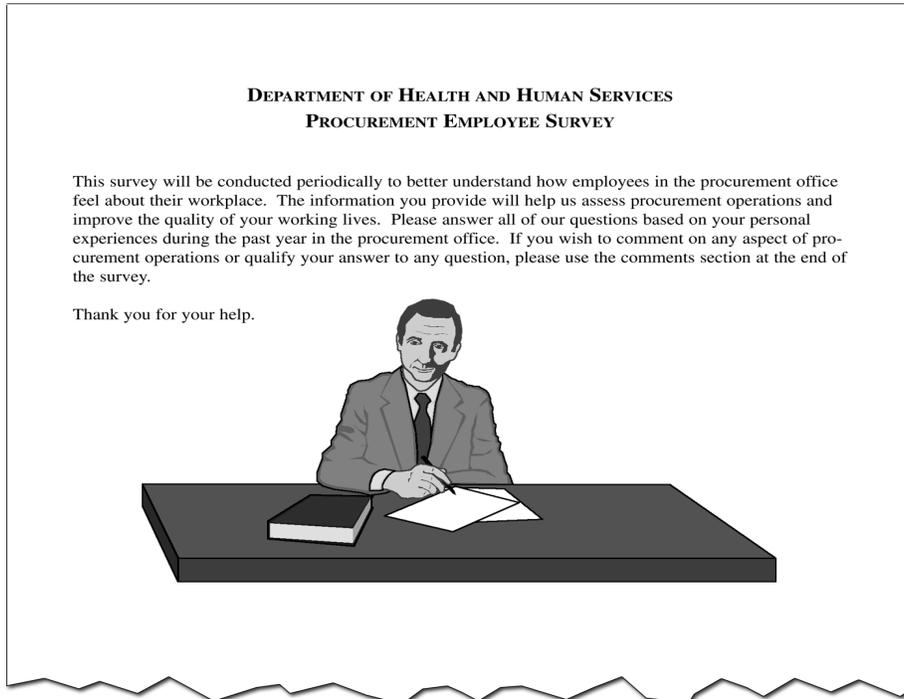


Figure 2-2. Front Cover of Survey Booklet

Figure 2-3 is an example of an appropriate opening question for the survey booklet. First, in order to establish survey interest, the opening question should be extremely important to the survey participants. For the HHS procurement employee survey, the quality of the work environment was chosen because it is extremely important to employees and makes an excellent opening question. Second, the opening question must be neither controversial nor offensive, to avoid increasing the likelihood that the survey participants will not answer the questionnaire at all. Third, it must be close-ended and very straightforward, so that survey participants do not get the impression that the survey will be too time-consuming and burdensome to answer.

QUALITY WORK ENVIRONMENT

Q-1 Do you agree or disagree that your branch/division/office provides a good environment for the following aspects of procurement work?

Circle the number of your answer for each aspect of work.

Aspect of Work	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
My work schedule is flexible	1	2	3	4	5
I receive training to perform my job	1	2	3	4	5
Team contributions are rewarded	1	2	3	4	5
Individual contributions are rewarded	1	2	3	4	5

Figure 2-3. Straightforward and Interesting Opening Questions

Figure 2-4 (as does Figure 2-3) illustrates the technique of grouping elements of a process under a single question for ease of consideration. In the case of a related survey of HHS procurement office customers, the elements of service/partnership naturally belong together for easy consideration. Such a grouping is very important for encouraging high response rates.

SERVICE/PARTNERSHIP

Q-2 Do you agree or disagree that the procurement office performs the following aspects of service/partnership well?

Circle the number of your answer for each service/partnership aspect.

Service/Partnership Aspect	Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
Is responsive	1	2	3	4	5
Explains project/contract office roles/responsibilities	1	2	3	4	5
Conducts procurements impartially	1	2	3	4	5
Shows flexibility in meeting my specific needs	1	2	3	4	5
Communicates well with me	1	2	3	4	5
Supports my organization's mission	1	2	3	4	5

Figure 2-4. Grouping Elements of a Process Under a Single Question

Figure 2-5 shows a series of background questions. Background questions are included in the survey to help determine whether the answers to the substantive questions are universally held or depend instead upon the background of the individual survey

participant. In the HHS procurement office employee survey, they will help determine whether the answers to the substantive questions are universally held or whether they depend on the types of jobs the respondents perform, or on how many years they have been in their respective positions. Background questions are also useful in analyzing different types of customers or employees separately.

Although the background questions can be used for such analytical purposes, they are not particularly interesting to most survey participants and, in fact, may be viewed by some participants as “none of your business.” For these reasons, background questions should be placed near the end of the survey booklet.

BACKGROUND

Q-10 Which of the following job categories best describes your current procurement function?

Circle the number of all answers that apply to your situation.

- 1 Contract Specialist—Primarily Contracts
- 2 Contract Specialist—Primarily Simplified Acquisitions
- 3 Contracting Officers
- 4 Procurement Analyst
- 5 Supervisor
- 6 Clerical/Administrative
- 7 Other (please specify)

Q-11 How long have you held this position with your current procurement office?

Circle the number of your answer.

- 1 Less than 1 Year
- 2 1-3 Years
- 3 4-6 Years
- 4 7-9 Years
- 5 More Than 9 Years

Figure 2-5. Placement of Background Questions Near the End of the Survey

Figure 2-6 illustrates an open-ended “comment” question for the survey booklet. Such a question is included in the survey to gain insights on the successes and problems with the process and on ways to improve its performance. A full page in the survey booklet is left open for comments and suggestions, and the survey participant can provide additional sheets of information if desired. However, because open-ended questions typically go unanswered by more than half of the survey participants, it is important to place them at the very end of the survey booklet in order to avoid jeopardizing responses to other questions.

COMMENTS

Please use this space (and additional sheets as necessary) to suggest specific changes that would improve the procurement process, or to elaborate on your answers to any of the previous questions.

Your contribution to this survey is greatly appreciated. If you would like a summary of results, please print your name and address on the back of the return envelope provided (not on this questionnaire). We will see that you receive the summary.

Figure 2-6. Open-Ended Comments Section

Web Surveys

Web surveys may not be much different from mail surveys in their design. A well-designed mail survey should be easily transferable to the Web environment. Web surveys should have complete answer categories for each question and a visually appealing format, and they should be easy to complete. Graphics may be used but should not distract the respondent from answering the survey. The Web survey should be designed simply so that it can, for example, be completed by clicking in a box or circle to indicate the chosen response. It can also include special programming so that not more than one answer can be selected, if that is what is desired, and automatic skipping over some questions on the basis of earlier responses. Response categories may have to be adjusted in the Web survey so that they are placed vertically rather than horizontally, to allow for differences in screen sizes.

Telephone Surveys

Telephone surveys require a highly organized script for the interviewer to use in contacting the respondent. Questions should be completely written out, including the response categories as part of the question, and should include everything the interviewer should say when speaking to the respondent. In most cases it is advisable to consult a professional when designing a telephone survey, to ensure that you are using appropriate protocols that, when used properly, provide a high response rate.

Step 5. Obtain Survey Clearance from the Office of Management and Budget

If 10 or more public customers are to participate in a collection of information by the federal government, the Paperwork Reduction Act of 1995 requires that the government manager submit a request to OMB for clearance approval. This requirement applies to survey efforts, and it applies whenever the same questions are posed to more than 10 persons in focus groups, on Web sites, or in other similar situations, whether response is voluntary or mandatory and whether it is written, electronic, or oral. Finally, "person" is defined by the Paperwork Reduction Act to include any individual, business, institution (such as a school or not-for-profit organization), or state, tribal, or local government. You do not need OMB clearance to survey employees or agencies of the federal government.

Once the clearance is approved, OMB will issue a clearance number for that specific collection effort. OMB will also tell you how long the clearance is valid (usually three years, the maximum allowed under the Paperwork Reduction Act).

The clearance process consists of completing a form, the Paperwork Reduction Act Submission (OMB 83-1), and providing a supporting statement, a sample of which is provided in Appendix F. The supporting statement is divided into two major parts, the first of which is the justification. Within the justification, you must explain the following: the need for the information, how it will be used, the use of improved information technology in its collection, efforts to avoid duplication, the effect on small businesses, and the consequences if the information is not collected. In addition, you must describe any special circumstances, consultation with the affected public, remuneration (usually not allowed), how confidentiality of responses will be maintained, any sensitive questions, estimates of the compliance burden on the public, and any other costs to respondents. Finally, in this part you must discuss the government's costs, any change in the burden from prior approvals, plans for analyzing and publishing the results,

arrangements for displaying the number provided by OMB and its expiration date, and any exceptions taken to the agency's certification.

The second major part of the supporting statement discusses the collection of information employing statistical methods, such as sampling the population. This part describes the statistical survey methodology, procedures for collecting the information, rates of response (which should be targeted to at least 80 percent), tests of procedures, and consulting services that you have received.

Your agency's Paperwork Reduction Act clearance officer can help with the OMB form and the supporting statement. Once they are completed to your agency's satisfaction, a designated official within your agency will sign a Certification for Paperwork Reduction Act Submission. Then your agency must place a notice in the *Federal Register* for 60 days to allow the public to comment on this proposed collection of information. After the 60-day period closes, the agency must review any comments resulting from the notice and perhaps amend the clearance or draft questionnaire. Then the package is submitted to OMB for approval and your agency publishes a 30-day notice in the *Federal Register*, notifying the public that it can comment on your proposal to OMB; for surveys with which we have been connected, no public comments have been received. At the end of the 30-day notice period, OMB will approve or disapprove your agency's clearance package. Because of the required public notices, the OMB clearance process cannot take less than 90 days, and it often takes a few days longer.

Once OMB has approved a collection of information, the clearance number and its expiration date must be placed on the collection instrument, along with a statement saying that the collection is voluntary (for most surveys) and that the recipient may comment on the burden the collection effort entails.

Step 6. Pretest and Revise the Survey Instrument

The pretest of the survey instrument is important for establishing a design that will obtain high response rates from the survey participants and for receiving consistent information from the surveys. The pretest process we use is outlined in Table 2-4.

Table 2-4. Survey Pretest and Revision

Element	Comment
Organize small focus group meeting	<ul style="list-style-type: none"> • Ideally, include 5-9 participants • Invite different types of potential respondents • Facilitate interactive discussion of survey
Participants complete surveys at the meeting	<ul style="list-style-type: none"> • Facilitators record completion times
Facilitators review questions with group	<ul style="list-style-type: none"> • Show questions with overhead projector • Explain intent of each question • Facilitate interactive discussion of survey • Record group reactions
Facilitators open the floor for general discussion	<ul style="list-style-type: none"> • New lines of questioning may be offered
Revise survey accordingly	<ul style="list-style-type: none"> • Clarify wording of questions and instructions • Delete or add questions

Table 2-4. Survey Pretest and Revision

Element	Comment
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At least one pretest should be performed before the survey is conducted. If few changes result from an initial pretest, another pretest is not necessary. However, if substantial changes are made as a result of the first pretest, another pretest is probably worth undertaking if time and resources permit. Test all materials that are going to be used in conducting the survey, including letters. When you are pretesting a Web-based survey, the pretest should be conducted on the computer, if possible, to ensure that all technical aspects of the survey are working well.

Step 7. Plan for Data Entry and Analysis

To facilitate data entry, the government manager should assign numerical codes for each category of response on the questionnaire. To avoid confusing the survey participants, however, the data entry codes should not appear on the survey instruments sent to them. Verification of data-entry accuracy can be done at reasonable cost. For verification of the data, simply plan to punch all of the data, repunch a batch (e.g., 25 percent), and check the repunched data against the originally punched data for accuracy. If an error is found anywhere, repunch another batch of the data and similarly check for errors against the corresponding batch of originally punched data. The verification process is continued until an error-free batch is found or until 100 percent verification has been performed.

When Web surveys are used, data entry is automatic, since data can be directly downloaded from the Web site to a database. This procedure can save the manager considerable time and money. As discussed earlier, other factors, including accessibility, should be considered when choosing to use Web surveys.

Data entry can be performed using either optical scanning or a manual keyboard. The choice between the two data entry methods depends largely on survey volumes and cost. In general, optical scanning is more convenient and faster than manual keyboard data entry, but relatively large volumes (e.g., sample sizes of 10,000 or more) are required for its efficient application. Also, scanning imposes additional restrictions on survey design, and it requires considerable training of people to establish and perform optical scanning procedures. Finally, scanning can require substantial editing of data entries. On the other hand, manual keyboard data entry is easier to perform and cheaper for relatively small survey volumes (e.g., sample sizes under 10,000). Both optical scanning and manual keyboard data entry methods provide roughly the same degree of accuracy.

With many government managers involved in annual surveys having sample sizes of 1,000 or less, manual keyboard data entry is generally more appropriate for use than optical scanning. For data entry, especially if optical scanning is used, the government manager may want to contract with one of the many specialized companies offering such services.

Software Selection

The government uses personal computers (PCs) routinely, and they are relatively inexpensive for analyzing most surveys. Mainframe systems, such as IBM and VAX, may be required for extremely complex and very large survey efforts. But for most data processing and analytical needs, government surveys can be analyzed using PCs. Two PC statistical packages are particularly suitable for survey analysis: Statistical Package for the Social Sciences (SPSS) and SAS. Both SAS and SPSS provide a great deal of capability for survey analysis, ranging from database management and simple cross-tabulations to graphics and advanced statistical procedures. SAS provides a more comprehensive statistical and analytical package, offers greater data manipulation capabilities, and is generally cheaper to purchase than SPSS. On the other hand, SPSS requires less in the way of computer resources, provides better user manuals, and is less difficult to master than SAS. Either SAS or SPSS will provide the necessary data processing and analytical capability for performing government surveys.

Conduct of Surveys

To be consistent with OMB requirements and good practices, government surveys should be conducted in a way that minimizes the burden on the community surveyed, maximizes response rates, and obtains statistically sound data. These factors are mutually reinforcing. Statistically sound survey data can be obtained by sampling, rather than by taking a census, and sampling helps to minimize the total burden on the community surveyed. Also, you can help to maximize response rates by minimizing the burden of the survey instrument and related requirements on the participants. Moreover, you can help obtain statistically sound survey data by following those survey practices that help achieve high response rates.

Table 2-5 depicts a 10-week process for conducting mail surveys with customers; employee surveys typically take five weeks to accomplish. This period of time is needed to print, label, and mail survey material; to contact survey participants up to four times for ensuring reasonably high response rates; and to “close the books” on the receipt of data two weeks after the last communication.

Table 2-5. Typical Schedule for Conducting a Mail Survey

Key milestone	Schedule ^a
Print survey booklets, cover letters, post cards, envelopes, and mailing labels	Weeks 1-3
Send alert postcard	Week 3
Mail survey booklet with cover letter and self-addressed, postage-paid envelope	Week 4
Send first thank-you/reminder post card	Week 5
Mail second survey booklet with second cover letter and self-addressed, postage-paid envelope	Week 7
Send second thank-you/reminder post card	Week 8
“Close the books” on the receipt of survey data	Week 10

^a Employee surveys usually do not require additional contacts after the 5th week.

The close timing between the post card and letter mailings was chosen because survey research has found that survey participants usually respond within a few days of receiving a questionnaire or a letter concerning it. Hence, waiting longer between mailings does not improve response time but merely wastes time.

An Internet Web survey may save time and money in comparison with the printing and mailing costs and transit time of postal mail. However, more than five contacts may be required, because this medium may not capture the respondent's attention as well as a mail survey would. Table 2-6 depicts a 9-week process for conducting Web-based surveys.

Table 2-6. Typical Schedule for Conducting a Web-Based Survey

Key Milestone	Schedule ^a
Establish survey Internet Web page	Weeks 1
Send alert message via e-mail	Week 2
E-mail cover message and URL of the Web location	Week 3
Send first reminder/thank you e-mail message	Week 4
Send second reminder/thank you e-mail message	Week 5
Send third reminder/thank you e-mail message	Week 6
Send fourth reminder/thank you e-mail message	Week 7
"Close the books" on the receipt of survey data	Week 9

^a Employee surveys usually do not require additional contacts after the 5th week.

Printing and Mailing

Government printing services are normally performed by reprographics branches of departments or by private firms under contract with the departments. A government manager will normally find that it takes about three weeks after work-order or contract approval to have the survey material printed—factoring in the time required to explain the request to the printing organization, to do the initial printing itself, and to inspect samples before fully printing all of the survey booklets, letters, post cards, and envelopes. Generating mailing labels is normally the government manager's responsibility, but often this task can be performed by the reprographics branch or the contractor.

Mailing labels can be generated by using a PC computer system. For example, we have programmed and prepared mailing labels using Microsoft Excel-based LMI-prepared templates with a system called Nametrak®. Working with the mailing lists, our Nametrak® permits the government manager to configure the name, address, and tracking number of the selected survey participants in various ways on the mailing label.⁶

⁶LMI Nametrak, copyrighted/Microsoft Excel system.

Government departments also often provide mailing services. These services include stuffing the survey booklets, cover letters, and return envelopes into appropriate sending envelopes; affixing mailing labels on sending envelopes and post cards; providing for postage on the sending and return envelopes; and establishing a special mail box for survey returns if desired. The government manager will be required to track survey returns and inform the mailing service which survey participants will have to receive follow-up mailings.

A unique number may be assigned to each participant to use as a tracking number. Tracking numbers shown on the front cover of each survey booklet and on each mailing label can be useful for both mailing and follow-up purposes. For mailing purposes, the tracking number on the cover of each survey booklet is used to ensure that an individual's survey instrument (to protect confidentiality, names and addresses are not shown on the survey booklets), is matched to the corresponding tracking number shown on the mailing label of the sending envelope. For follow-up purposes, the tracking number of each returned survey is recorded; the remaining tracking numbers indicate the participants who have not responded and who should receive follow-up survey material.

We have created a tracking system for mailing, follow-up, and tracking purposes. This tracking system is also on a PC; Table 2-7 displays a sample of it.⁷

Table 2-7. Tracking System

Tracking number (1)	Date received (2)	Completed (3)	Undeliverable (4)	Results requested (5)	Date submitted for data entry (6)
10001	4/12	1		1	4/14

Our tracking system has six data fields or columns. Column (1) lists the tracking number for each survey participant. Column (2) indicates the date when a participant has replied, either by completing or not completing the survey form. The tracking numbers in column (1) that do not have a corresponding date entered in column (2) identify the participants who need to receive another communication. After the sixth week, for example, we can use the tracking system to identify those participants who have not replied and who therefore need to receive another survey instrument in the seventh week of the conduct of the survey. Column (3) would receive a "1" when a survey instrument is completed and returned, so we can count the total number of successful responses. Column (4) would receive a "1" when a survey instrument is undeliverable (perhaps the party has moved and left no forwarding address, or has changed occupations and no longer considers himself or herself a part of this group, or is ill or deceased). Column (5) would receive a "1" if the survey respondent requests a copy of the survey results, which the transmittal letter offered to send as a "token reward" for answering the survey. Column (6) indicates the date when a completed survey

⁷ibid.

document is submitted for data entry and comment recording, to help track processing of the surveys.

In addition to mailing and follow-up, the tracking system can be used to calculate the response rate at any point in time. Equation 2-1 shows the appropriate fields or columns for calculating response rates:

$$\text{response rate} = \frac{\text{total number of surveys completed (3)}}{\text{total number tracked (1)–undeliverable (4)}}, \quad [\text{Eq. 2-1}]$$

where

- (3) = sum of column (3) “1s”—indicating number of completed surveys returned,
- (1) = total number of surveys mailed or number of tracking numbers listed, and
- (4) = sum of column (4) “1s”—indicating number of undeliverable surveys.

The response rate tells us what percentage of those who are expected to complete the survey have done so. A survey participant who has not received the survey instrument is not expected to complete the return and should not be counted as part of the effective sample size. For this reason, we adjust the total number of surveys tracked (column 1) by the number of undeliverable surveys (column 4). As you recall, we are striving to obtain at least a 50 percent response rate, calculated by Equation 2-1. In the unlikely event that the planned contacts do not achieve the minimum acceptable response rate, the government manager should consider another contact. If additional contact with the survey participants should become necessary, the government manager should send a survey packet by certified mail or use a more personal medium than the mail or Web—such as in-person meetings or telephone conversations.

Appendix E

Standardization Customer Satisfaction Survey

Defense Standardization Program Standardization Products/Services Customer Satisfaction Survey



We are undertaking this survey to obtain your views on the standardization products and services used by government acquisition and logistics professionals and other customers. We want to identify customer needs and determine which products and services should be made available in electronic format. The insights you provide will help us assess and address these needs. For continuous improvement, we plan to conduct a follow-on survey

exploring the functionality of specific products/ services.

Please answer all questions based on your personal experiences with standardization products and services during the last 12 months. **Your answers are confidential and are processed by an independent third party.** Only a summary of results will be provided to the DSP.

If you wish to provide additional remarks on any aspect of the standardization-related acquisition and logistics products and services or want to qualify your answers to any question, please use the *Comments* section at the end of the survey.

The survey has been tested and should only take about 15 minutes to complete.

As security measures, at the login prompt, enter your user name – which is all the characters in your e-mail address before the @ symbol, and the password – which is XQM5 (all upper case).

Thank you for your help.

User Name:

Password:

[Click Here to Take Survey](#)

Defense Standardization Program Standardization Products/Services Customer Satisfaction Survey

Instructions:

All current DoD customers of standardization-related acquisition and logistics products and services should complete this survey. Individual responses will be kept strictly confidential. The survey results will not be attributed to an individual respondent; rather, results will be analyzed in total or in groups to gauge and improve the products and services provided.

Please base your response on your experiences with standardization products and services during the last 12 months. If you have not used certain products or services covered in the survey, tick the box labeled *Not Applicable* or *None of the Above*. Otherwise, select the response to each question that most closely matches your views.

Completing the survey:

To select or change an answer: Use your mouse to move the cursor next to the tick box of your desired answer. Click with the left button on your mouse to select your preferred response. There are two types of tick boxes on the survey form:

1. Round like this:
The round tick boxes let you click on only one box in a group. If you wish to change a selection, selecting a new tick box “deselects” the previous one.
2. Square like this:
The square tick boxes allow you to select as many boxes as you want. If you wish to change a selection, click the box again to “deselect” it.

Typewritten answers: Use your mouse to move the cursor next to the text box. Click with the left button in the text box and use the delete or backspace key to remove or change your answer.

Click on the tick box labeled ***Not Applicable***, ***None of the Above***, or ***Do Not Know*** if you do not have enough information to respond to the statement or if you have not used a particular product/service in the last 12 months.

If interrupted, your answers will remain in place as long as you do not exit your browser.

A **Comments** section is provided at the end of the survey if you wish to elaborate on your answers or provide suggestions for improving standardization-related acquisition and logistics products and services.

At the end of the survey, click the box marked "**Click here to submit your survey**" when you are finished.

There are two main categories of standardization products and services; those that are available to acquisition and logistics professionals electronically, and those that are available in a more conventional, non-electronic format.

Non-electronic Standardization Products/Services

Q-1 Which of the following **non-electronic** standardization-related acquisition and logistics products and services have you used in the last 12 months?

Select **all** answers that apply.

- Adopted Non-Government Standards
 - Historical Government Standardization Documents
 - DD Form 1426 Submission Process
 - DAU Standardization Courses
 - None of the Above
 - Do Not Know
 - Other
- Please specify Other (Click in the space below)

If you selected "None of the Above" or "Do Not Know" for Q-1, please skip to Q-4.

Q-2 How useful are the following **non-electronic** standardization products and services that you have used in the past 12 months (as indicated in response to Q-1)?
If you have not used a product/service in the past 12 months, please select Not Applicable.

Select **one** answer.

Non-Electronic Product / Service	Level of Usefulness
Adopted Non-Government Standards	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable

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Historical Government Standardization Documents	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
DD Form 1426 Submission Process	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
DAU Standardization Courses	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
Other (as indicated in response to Q-1)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable

Q-3 About how often did you use the following **non**-electronic standardization products and services during the past 12 months?

If you have not used a product/service in the past 12 months, please select Not Applicable.

Select **one** answer that best describes your situation.

Non-Electronic Product / Service	Frequency
Adopted Non-Government Standards	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable
Historical Government Standardization Documents	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable

DD Form 1426 Submission Process	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable
Other (as indicated in response to Q-1)	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable

Electronic Standardization Products/Services
<p>Q-4 Which of the following electronic standardization-related acquisition and logistics products and services have you used in the last 12 months?</p>
<p>Select all answers that apply.</p>
<ul style="list-style-type: none"> <input type="checkbox"/> Policy Memos/Guidance <input type="checkbox"/> DoD 4120.24 Manual <input type="checkbox"/> Defense Standardization Journal <input type="checkbox"/> Status of Spec Reform Actions <input type="checkbox"/> SD-2 (Handbook for NDI) <input type="checkbox"/> SD-5 (Market Research) <input type="checkbox"/> SD-6 (QPL Guidance) <input type="checkbox"/> SD-10 (ID/Dev of Metric Standards) <input type="checkbox"/> SD-11 (TCP Database) <input type="checkbox"/> SD-15 (Perf Spec Guide) <input type="checkbox"/> SD-16 (Communicating Requirements) <input type="checkbox"/> SD-18 (Guide for Part Requirements) <input type="checkbox"/> MIL-STD-961 through STD-965 <input type="checkbox"/> ISA Database <input type="checkbox"/> DD Form 1426 <input type="checkbox"/> None of the Above <input type="checkbox"/> Do Not Know <input type="checkbox"/> Other Please specify Other (Click in the space below)

If you selected “None of the Above” or “Do Not Know” for Q-1, please skip to Q-7.

Electronic standardization products and services are intended to have a positive impact on your job performance. These products/services should be better than what you were using previously in helping you to:

- **Improve your productivity,**
- **Manage your workload more effectively,**
- **Meet job requirements more effectively, and**
- **Prepare more professional products.**

Q-5 How useful are the following electronic standardization products and services that you have used in the past 12 months (as indicated in response to Q-4) for improving your job performance?

If you have not used a product/service in the past 12 months, please select Not Applicable.

Select **one** answer.

Electronic Product / Service	Level of Usefulness
Policy Memos/Guidance	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
DoD 4120.24 Manual	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
Defense Standardization Journal	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-2 (Handbook for NDI)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-5 (Market Research)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable

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SD-6 (QPL Guidance)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-10 (ID/Dev of Metric Standards)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-11 (TCP Database)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-15 (Perf Spec Guide)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-16 (Communicating Requirements)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
SD-18 (Guide for Part Requirements)	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
MIL-STD-961 through STD-965	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
ISA Database	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable
DD Form 1426	<input type="radio"/> Very Useful <input type="radio"/> Somewhat Useful <input type="radio"/> Not Useful <input type="radio"/> Not Applicable

Q-6 About how often did you use the following electronic standardization products

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<p>and services during the past 12 months? <i>If you have not used a product/service in the past 12 months, please select Not Applicable.</i></p>	
<p>Select one answer that best describes your situation.</p>	
Electronic Product / Service	Frequency
Policy Memos/Guidance	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable
DoD 4120.24 Manual	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable
Defense Standardization Journal	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable
Other (as indicated in response to Q-4)	<input type="radio"/> Daily <input type="radio"/> Weekly <input type="radio"/> Monthly <input type="radio"/> Quarterly <input type="radio"/> Annually <input type="radio"/> Less Than Once a Year <input type="radio"/> Not Applicable

General Communication

Q-7 Which of the following are your primary sources of information for help on implementing and using the standardization products and services (e.g., installation, upgrades, complaints, applications)?

Select **all** answers that apply.

- Published information bulletin
- Standardization IPT Website
- E-mail
- Supervisor
- Co-worker
- None of the Above
- Other
Please specify Other (Click in the space below)

Q-8 How effective are those sources of information for helping you use the standardization products and services?

Select **one** answer for each information source you indicated in response to Q-10.

Source of Information	Level of Effectiveness
Published information bulletin	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable
Standardization IPT Website	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable
E-mail	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable

Supervisor	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable
Co-worker	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable
Other	<input type="radio"/> Extremely Effective <input type="radio"/> Very Effective <input type="radio"/> Effective <input type="radio"/> Slightly Effective <input type="radio"/> Not Effective <input type="radio"/> Not Applicable

New Products/Services Converted to Electronic Format
<i>The DSP is planning future electronic conversions of standardization-related acquisition and logistics products/services. In doing so, a choice will have to be made as to which products/services are converted first.</i>
Q-9 Which standardization-related acquisition and logistics products/services should have the highest and lowest priority for electronic conversion?
Highest Priority (please specify below)
Lowest Priority (please specify below)

Background

The background information requested on this customer service survey will be used for compiling and analyzing data by specific groups. The identity of employees completing the survey will not be matched to any specific information requested. Gathered information from the survey goes directly to LMI, the third-party assisting the DSP in undertaking the survey, and only summary statistical data will be provided to the Standardization IPT.

Q-10 Which organization were you affiliated with during most of the last 12 months?

Select **one** answer.

- U.S. Army
- U.S. Air Force
- U.S. Navy
- Marine Corps
- Army Corps of Engineers
- National Security Agency
- Defense Logistics Agency
- National Guard
- Reserves
- Other

Please specify Other (Click in the space below)

Q-11 Which of the following job categories best describes your primary work function?

Select **one** answer.

- Acquisition
- Transportation
- Maintenance
- Supply
- Engineering
- Other

Please specify Other (Click in the space below)

The level of expertise you have with computers is an important factor in planning for future upgrades to standardization products and services.

Q-12 How would you rate your level of expertise in the following computer areas?

Select **one** answer.

Computer Area

Level of Expertise

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Windows system	<input type="radio"/> Advanced Level <input type="radio"/> Intermediate Level <input type="radio"/> Beginning Level <input type="radio"/> No Expertise
Word processing	<input type="radio"/> Advanced Level <input type="radio"/> Intermediate Level <input type="radio"/> Beginning Level <input type="radio"/> No Expertise
Spreadsheets/databases	<input type="radio"/> Advanced Level <input type="radio"/> Intermediate Level <input type="radio"/> Beginning Level <input type="radio"/> No Expertise
Electronic mail	<input type="radio"/> Advanced Level <input type="radio"/> Intermediate Level <input type="radio"/> Beginning Level <input type="radio"/> No Expertise
Internet	<input type="radio"/> Advanced Level <input type="radio"/> Intermediate Level <input type="radio"/> Beginning Level <input type="radio"/> No Expertise

Comments

Please click in the space below if you want to provide comments. Use this space to suggest specific ideas that you think are important for improving standardization-related acquisition and logistics products/services, or to elaborate on your answers to any of the previous questions.

Your responses go directly to an LMI computer server where they are added to all other responses in a database. All responses are kept strictly confidential, and only

aggregate statistics will be reported.

**Click Here to Submit Your
Survey**

Thank you. Your name will no longer be associated with your responses. LMI will automatically add your responses to the data of all other survey respondents. We greatly appreciate your contribution to this survey. You may now close your browser.

Appendix F DSP Survey Process Flow

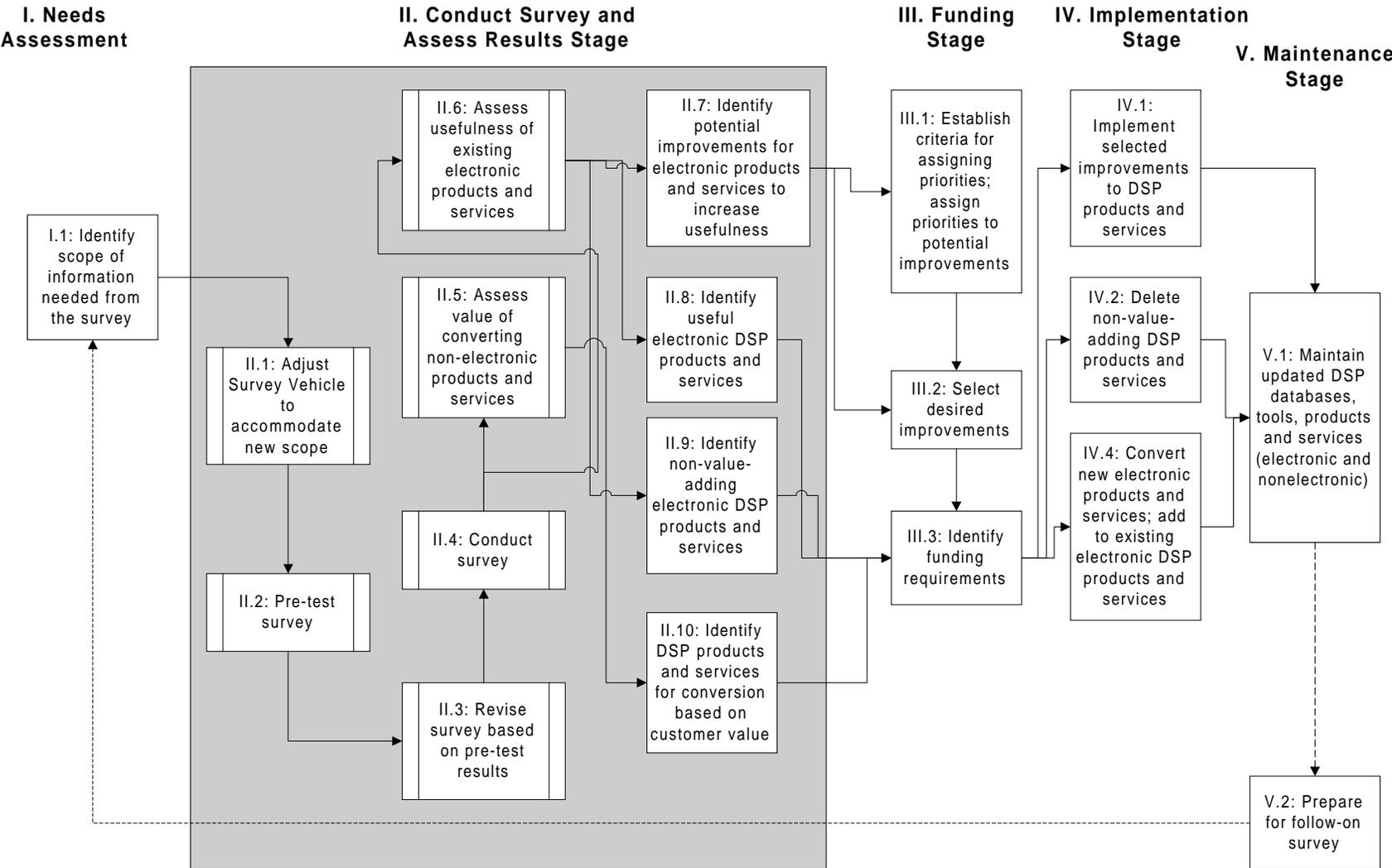


Figure VI.A.1-a: Cycle for Increasing the Number of DSP Products that are Available Electronically (Task VI.A.1)

FLOWCHART DESCRIPTION

1. Needs Assessment

Resolve the scope of the survey on a periodic basis. This stage is intended to gather the input information to enable the refinement of the survey vehicle prior to testing and conducting the survey. At this point in time there are three types of products and services available from the DSP: those that are available electronically via the web, or on disk or CD-ROM, and those that are provided in hard copy or some other format. Consequently, the products and services in both of these categories must be identified to help distinguish the target population early in the survey cycle. The second key input is the identification of the members of the target population who will be surveyed. This knowledge will permit an assessment of the resulting findings with statistical significance; in other words, it will assess the ability of decisions to be made based on the results with a degree of certainty that they will have a positive impact with relation to the desired outcome. With this information, the scope of the survey can be developed. This scope may change depending on the focus of the survey (e.g., awareness of or involvement with specific products and services, a focused set of customers and/or users, and changing customer/user needs).

2. Conduct Survey and Assess Results

Refine, test, and conduct the survey, and then assess the results. Based upon the scope of the survey, it is important that the survey be appropriately adjusted and tested with a sample representative population, conducted to achieve significant results, and that those results are assessed in an unbiased, professional manner. This Stage is unique in that the work accomplished here is done primarily by a third party participant.

3. Funding

Prioritize the opportunities to improve and identify funding needs. In preparation for seeking the necessary funding levels for standardization initiatives, alternatives must be prioritized so that those issues most important to the customers and users are identified for completion. Then the prioritized list should be advocated in the budget process. DSP owns this process, and integrates the findings from the previous stage to develop an action list and requisite resource requirements lists. The resulting funding level achieved will enable the Implementation Stage to accommodate the maximum number of improvements to increase the value customers place on DSP products and services.

4. Implementation

Implement approved improvements. The ability to implement is driven by the soundness of the prioritized list, and its relative ranking with the numerous requests for funds from the budget process. These actions may include improving existing products and services, deleting non-value-adding ones, and converting non-electronic products and services to digital format. The participation of a standardization champion may be necessary to secure the minimum funding needed to implement the high priority DSP initiatives.

5. Maintenance

Maintain standardization-related databases, and prepare for new survey cycle. The two final steps that provide the keys to continuous improvement are maintenance of the DSP databases, tools, products and services, as well as putting preparations in place to conduct a follow-on survey to trigger the next improvement cycle. The numerous types of information resulting from this process must be maintained in a useable format. This information plus the lessons learned as the process was executed should be considered at the end of each completing cycle, and the beginning of each new cycle occurs. This feedback loop increases the robustness of the survey cycle as it is repeated periodically.

Once a baseline is created by the initial implementation of this survey, the DSP will use the survey, modified to accommodate current needs, to assess future conversion requirements and related issues.

Appendix G

Glossary of Terms

Acronym	Term
AR	Acquisition Reform
ASSIST	Acquisition Streamlining and Standardization Information System
CTR	Continuous Technology Refreshment
DAPS	Defense Automated Printing Service
DID	Data Item Description
DLA	Defense Logistics Agency
DoD	Department of Defense
DSP	Defense Standardization Program
DSPO	Defense Standardization Program Office
DTIC	Defense Technical Information Center
EDI	Electronic Data Interchange
FSC	Federal Supply Class
GIDEP	Government-Industry Data Exchange Program
HAZMAT	Hazardous Material
IES	Information Exchange System
IPT	Integrated Process Team
ISA	International Standardization Agreement
JTA	Joint Technical Architecture
JV	Joint Vision (2010 and 2020)
LMI	Logistics Management Institute
MTS	Modernization Through Spares
ODC	Ozone Depleting Chemicals
ROI	Return on Investment
SPI	Single Process Initiative
TCP	Technical Committee Participant