

## Preparing for a Spend Analysis

The Preparing for a Spend Analysis lesson describes the key steps involved with setting up a Spend Analysis including defining the scope of the effort, compiling the required data, and preparing the data for analysis.

After completing this lesson you should be to:

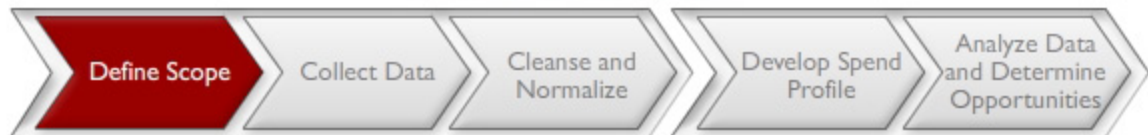
- Identify the main parameters for defining a Spend Analysis scope.
- Identify the key activities involved with identifying and collecting spend data.
- Identify the key activities involved with cleansing the spend data.



## Defining the Spend Analysis Scope

The first step in planning for a Spend Analysis is to define the scope of the effort. This is a two-step process: Step 1 - Define Spend Analysis and Step 2 - Define Spend Analysis Objectives.

### Spend Analysis Process



Step 1: Define the commodity focus and data to be included in the Spend Analysis (i.e., what's in and what's out).

Step 2: Define the key questions to be addressed by the Spend Analysis.



Remember, throughout this module the word "commodity" is used to describe the spend category for a specific good or service

Source: Censeo Consulting Group

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### Spend Analysis Process

#### Long Description

Graphic illustrates the Spend Analysis process highlighting Step 1: Define Scope and its two substeps. The sub-steps are as follows:

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Step 2: Define the key questions to be addressed by the Spend Analysis.



Remember, throughout this module the word "commodity" is used to describe the spend category for a specific good or service

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## Step 1: Defining the Spend Analysis Parameters

The primary concern when specifying what data will be included in the Spend Analysis includes four parameters: **Commodity Scope**, **Organizational Scope**, **Time Frame**, and **Types of Spend**. Select each parameter below to learn more.



First, the commodity/service that will be the focus of the analysis must be confirmed. The Opportunity Assessment conducted earlier should provide a good idea of the highest level commodity category as well as the highest level portfolio group. Additional spend data analysis will provide a greater understanding of the portfolio categories that fall within the portfolio group.

Source: Censeo Consulting Group

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## **Long Description**

This is an interactive graphic that contains four tabs: Commodity Scope, Organizational Scope, Time Frame, and Types of Spend. When a tab is selected, the following content is displayed:

### **Commodity Scope**

First, the commodity/service that will be the focus of the analysis must be confirmed. The Opportunity Assessment that was conducted previously should have provided a good idea of the highest level commodity category as well as the highest level portfolio group. Also, further spend data analysis will provide a greater understanding of the portfolio categories that fall within the portfolio group.

### **Organizational Scope**

A Spend Analysis can be conducted at an enterprise-wide level or within a specific department or division. Factors that may affect organizational scope include:

- Scope of the broader Strategic Sourcing program
- Known location(s) of commodity spend
- Organizational complexity
- Available resources

In the USMC case example from the Spend Analysis Overview Lesson, the organizational scope was initially defined as including the entire Marine Corps organization. After the portfolio scope was narrowed to IT Equipment and Services, the organizational scope was further narrowed to include only the Marine Corps' tactical commands. Expanding the scope to cover the broader Navy organization was also considered, but then deemed out of scope for this analysis.

### **Time Frame**

The start and end dates for the spend data to be collected must also be defined. As a general rule, it is better to have data for the most recent full fiscal year. Less data makes it difficult to discern patterns and understand factors such as seasonality. However, more data can make the analysis too unwieldy with

diminishing returns for the level of effort required to process and manage the data.

In the USMC case example from Lesson 2, recall spend data was sought for the previous fiscal year only. Additional data outside of this time frame was analyzed as needed to clarify spend patterns and trends.

### **Types of Spend**

The types of spend on which to concentrate the analysis must also be established. The following are possible spend types examples:

- Contract Spend
- Non-Appropriated Funds
- Off-Contract Purchase Card Expenditures
- Grants Spend

In addition, should spend with suppliers be covered or should there be a focus on specific sub-categories such as small businesses?

In the USMC example from Lesson 1, the goal was to get a clear picture of all types of IT Equipment and Services spend, including that from purchase cards, interagency purchases, contracting office records, etc. Therefore, spend was collected and analyzed for all types of purchases.

## **Step 2: Defining the Spend Analysis Objectives**

As part of defining the scope, it is also important to answer the following key questions that the Spend Analysis will address:

- [Which products and services are being purchased?](#)
- [Who is purchasing these products or services?](#)
- [From whom are the products or services being purchased?](#)
- [How are these products or services being purchased?](#)



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### **Which Products and Services are Being Purchased?**

The goal is to get the greatest detail possible about the specific products or services being purchased.



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### Who is Purchasing These Products or Services?

In addition to knowing the contracting office processing each spend request, it is important to obtain information about the end users requesting the products or services.



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### **From Whom are the Products or Services Being Purchased?**

Find out details on the specific suppliers who are delivering the products or services requested.



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### **How are These Products or Services Being Purchased?**

Identify the contract vehicles being used to make these purchases.





## **Step 2: Defining the Spend Analysis Objectives, Cont.**

In addition to key spend questions, there may also be other specific objectives associated with a Spend Analysis.

In the USMC case example, the following objectives were established to guide the IT Spend Analysis initiative:

- Provide an accurate and detailed buildup of total spend for the IT Equipment and Services commodity.
- Develop IT commodity segments from a sourcing perspective.
- Understand the importance and relative priority of various IT segments.
- Understand current sourcing practices as evidenced through suppliers, contracts, buying offices, and other entities connected to purchasing.
- Develop a spend baseline for performance measurement.





## Knowledge Review

What is the optimal spend data time frame for a Detailed Portfolio Spend Analysis?

- ☐ Data from the most recent quarter
- ☒ Data from most recent fiscal year
- ☐ Data from the last two years
- ☐ Data from the last five years

Check Answer

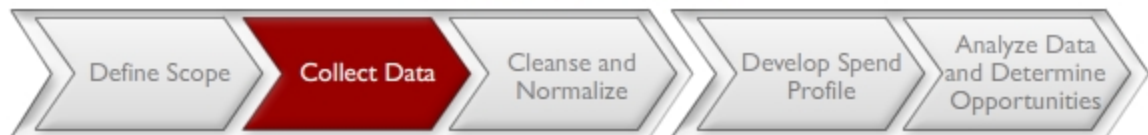
As a general rule, for a Detailed Commodity Spend Analysis it is important to have **data for the most recent full fiscal year**. Users with knowledge of the commodity should be consulted to understand if any significant data anomalies exist that merit analysis of additional data beyond the last fiscal year.



## Collecting the Spend Data

With a clear understanding of the scope, it is time to proceed with collecting the data needed for performing the Spend Analysis. This is a three-step process: Step 1 - Define Data Requirements; Step 2 - Identify Data Sources; and Step 3 - Collect Data. Each step is discussed in greater detail on the following pages.

### Spend Analysis Process



Step 1: Specify the data fields and formats to guide data collection

Step 2: Locate the sources of data that can fulfill analysis needs

Step 3: Contact identified sources with specific data requests and compile data

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### Spend Analysis Process

#### Long Description

Graphic illustrates the 5-step Spend Analysis process with the focus on Step 2: Collect Data and its sub-steps. There are three sub-steps for Step 2:

- **Step 1:** Specify the data fields and formats to guide data collection
- **Step 2:** Locate the sources of data that can fulfill analysis needs
- **Step 3:** Contact identified sources with specific data requests and compile data

Collect Data

Step 3: Contact identified sources with specific data requests and compile data

## **Step 1: Defining the Data Requirements**

Before beginning data compilation, data requirements must be defined. Defining data fields up front helps ensure some level of consistency when data is being collected across many different sources.

At a minimum, the data elements that need to be collected include:

- Commodity Purchased – line-item detail about the product/service Date of Purchase
- Purchase Amount (\$)
- Purchase Quantity
- Customer – the program or office that generated the requirement
- Contracting Office – the procurement office handling the contract
- Supplier Name
- Purchase Method – the contract or other method (e.g., purchase card) used to make an acquisition
- Contract Type (e.g., time & material)
- Supplier Size (e.g., large vs. small business)
- Competition Levels



## Step 2: Identifying Data Sources

The best starting point for identifying data sources is to talk with Defense Procurement Acquisition Policy (DPAP)/Professional Acquisition Support Services (PASS), stakeholders, contracting officers, customers, and suppliers who are most directly involved with the commodity being transacted.

Several Federal procurement reporting instruments are useful starting points for collecting spend data including; Federal Procurement Data System – Next Generation (FPDS-NG), DD Form 350 and USASpending.gov. Select each graphic below to learn more.



DEFENSE ACQUISITION CONTRACTING ACTION REPORT  
Report Form DD-A12AL0104

A1 Type of Report (1) Original, (2) Canceling, or (3) Continuing  
A2 Report Number  
A3 Contracting Office  
A4 Reporting Agency FPMR 41 Code  
A5 Contracting Office Code  
A6 Name of Contracting Office

B1 Contract Identification Information  
B1A Contract Number  
B1B Order of Contract (1) 1st, (2) 2nd, (3) 3rd, (4) 4th, (5) 5th, (6) 6th, (7) 7th, (8) 8th, (9) 9th, (10) 10th, (11) 11th, (12) 12th, (13) 13th, (14) 14th, (15) 15th, (16) 16th, (17) 17th, (18) 18th, (19) 19th, (20) 20th, (21) 21st, (22) 22nd, (23) 23rd, (24) 24th, (25) 25th, (26) 26th, (27) 27th, (28) 28th, (29) 29th, (30) 30th, (31) 31st, (32) 32nd, (33) 33rd, (34) 34th, (35) 35th, (36) 36th, (37) 37th, (38) 38th, (39) 39th, (40) 40th, (41) 41st, (42) 42nd, (43) 43rd, (44) 44th, (45) 45th, (46) 46th, (47) 47th, (48) 48th, (49) 49th, (50) 50th, (51) 51st, (52) 52nd, (53) 53rd, (54) 54th, (55) 55th, (56) 56th, (57) 57th, (58) 58th, (59) 59th, (60) 60th, (61) 61st, (62) 62nd, (63) 63rd, (64) 64th, (65) 65th, (66) 66th, (67) 67th, (68) 68th, (69) 69th, (70) 70th, (71) 71st, (72) 72nd, (73) 73rd, (74) 74th, (75) 75th, (76) 76th, (77) 77th, (78) 78th, (79) 79th, (80) 80th, (81) 81st, (82) 82nd, (83) 83rd, (84) 84th, (85) 85th, (86) 86th, (87) 87th, (88) 88th, (89) 89th, (90) 90th, (91) 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(1014) 1014th, (1015) 1015th, (1016) 1016th, (1017) 1017th, (1018) 1018th, (1019) 1019th, (1020) 1020th, (1021) 1021st, (1022) 1022nd, (1023) 1023rd, (1024) 1024th, (1025) 1025th, (1026) 1026th, (1027) 1027th, (1028) 1028th, (1029) 1029th, (1030) 1030th, (1031) 1031st, (1032) 1032nd, (1033) 1033rd, (1034) 1034th, (1035) 1035th, (1036) 1036th, (1037) 1037th, (1038) 1038th, (1039) 1039th, (1040) 1040th, (1041) 1041st, (1042) 1042nd, (1043) 1043rd, (1044) 1044th, (1045) 1045th, (1046) 1046th, (1047) 1047th, (1048) 1048th, (1049) 1049th, (1050) 1050th, (1051) 1051st, (1052) 1052nd, (1053) 1053rd, (1054) 1054th, (1055) 1055th, (1056) 1056th, (1057) 1057th, (1058) 1058th, (1059) 1059th, (1060) 1060th, (1061) 1061st, (1062) 1062nd, (1063) 1063rd, (1064) 1064th, (1065) 1065th, (1066) 1066th, (1067) 1067th, (1068) 1068th, (1069) 1069th, (1070) 1070th, (1071) 1071st, (1072) 1072nd, (1073) 1073rd, (1074) 1074th, (1075) 1075th, (1076) 1076th, (1077) 1077th, (1078) 1078th, (1079) 1079th, (1080) 1080th, (1081) 1081st, (1082) 1082nd, (108

## Step 2: Identifying Data Sources

The best starting point for identifying data sources is to talk with Defense Procurement Acquisition Policy (DPAP)/Professional Acquisition Support Services (PASS), stakeholders, contracting officers, customers, and suppliers who are most directly involved with the commodity being transacted.

Several Federal procurement reporting instruments are useful starting points for collecting spend data including; Federal Procurement Data System – Next Generation (FPDS-NG), DD Form 350 and USASpending.gov. Select each graphic below to learn more.



DEFENSE ACQUISITION REPORT

REPORT NUMBER DD-A104241010

A1 Type of Report (1) Original, (2) Cancelled, or (3) Continuing

A2 Report Number

A3 Contracting Office

A4 Reporting Agency FPMR Code

A5 Contracting Office Code

A6 Name of Contracting Office

B1 Contract Identification Information

B1A Contract Number

B1B Order of Contract (1) A-100, (2) A-101, or (3) Other Than 2nd Agency

B1C Modified Contract (1) Yes, or (2) No

B1D Modified Contract Description (1) A. Mission Contract, (2) CDDM Contract, A-76, or (3) Other

B1E Performance Based Service Contract (1) Yes, or (2) No

B1F Modification Order, or Other DD Number

B1G Other, or Other DD Number

B1H Modification Number

B1I Action Date (year/month)

B1J Completion Date (year/month)

B1K Contract Identification Information

B1L Contract Identification Number (CIN)

B1M Reporting Agency

B1N Contract Name and Description

B1O Contract

B1P Contract Address

B1Q Item or Part Name

B1R City or Town

B1S State or Country

B1T Page Code

B1U Reporting Identification Number

B1V Parent Reporting Identification Number

B1W Parent Title

B1X Parent Title of Subcontract

B1Y City or Town Code

B1Z State or Country Code

B2C City or Place and State or Country Name

B2D Type Organization (1) Original, (2) Disposition, or (3) No Order (Original or Disposition)

B2E Original or Disposition Order (Enter Whole Dollars Only)



Federal Procurement  
Data System -  
Next Generation

### DD Form 350

This was the procurement data collection system used for many years by the Department of Defense. FPDS-NG is gradually replacing the DD Form 350 system. However, DD-350 still contains historical spend information that may be valuable for the next several years.

## Step 2: Identifying Data Sources

The best starting point for identifying data sources is to talk with Defense Procurement Acquisition Policy (DPAP)/Professional Acquisition Support Services (PASS), stakeholders, contracting officers, customers, and suppliers who are most directly involved with the commodity being transacted.

Several Federal procurement reporting instruments are useful starting points for collecting spend data including; Federal Procurement Data System – Next Generation (FPDS-NG), DD Form 350 and USASpending.gov. Select each graphic below to learn more.



DEFENSE ACQUISITION CONTRACTING ACTION REPORT  
Report Form (DD-A124) (Rev. 10-1-01)

A1 Type of Report: (1) Original, (2) Canceling, or (3) Continuing  
A2 Report Number  
A3 Contracting Office  
A4A Reporting Agency FPDS ID Code  
A4B Contracting Office Code  
A4 Name of Contracting Office

B1 Contract Identification Information  
B1A Contract Number  
B1B Order of Contract: (A) 1st, (B) 2nd, (C) 3rd, (D) 4th, (E) 5th, (F) 6th, (G) 7th, (H) 8th, (I) 9th, (J) 10th, (K) 11th, (L) 12th, (M) 13th, (N) 14th, (O) 15th, (P) 16th, (Q) 17th, (R) 18th, (S) 19th, (T) 20th, (U) 21st, (V) 22nd, (W) 23rd, (X) 24th, (Y) 25th, (Z) 26th, (AA) 27th, (AB) 28th, (AC) 29th, (AD) 30th, (AE) 31st, (AF) 32nd, (AG) 33rd, (AH) 34th, (AI) 35th, (AJ) 36th, (AK) 37th, (AL) 38th, (AM) 39th, (AN) 40th, (AO) 41st, (AP) 42nd, (AQ) 43rd, (AR) 44th, (AS) 45th, (AT) 46th, (AU) 47th, (AV) 48th, (AW) 49th, (AX) 50th, (AY) 51st, (AZ) 52nd, (BA) 53rd, (BB) 54th, (BC) 55th, (BD) 56th, (BE) 57th, (BF) 58th, (BG) 59th, (BH) 60th, (BI) 61st, (BJ) 62nd, (BK) 63rd, (BL) 64th, (BM) 65th, (BN) 66th, (BO) 67th, (BP) 68th, (BQ) 69th, (BR) 70th, (BS) 71st, (BT) 72nd, (BU) 73rd, (BV) 74th, (BW) 75th, (BX) 76th, (BY) 77th, (BZ) 78th, (CA) 79th, (CB) 80th, (CC) 81st, (CD) 82nd, (CE) 83rd, (CF) 84th, (CG) 85th, (CH) 86th, (CI) 87th, (CJ) 88th, (CK) 89th, (CL) 90th, (CM) 91st, (CN) 92nd, (CO) 93rd, (CP) 94th, (CQ) 95th, (CR) 96th, (CS) 97th, (CT) 98th, (CU) 99th, (CV) 100th, (CW) 101st, (CX) 102nd, (CY) 103rd, (CZ) 104th, (DA) 105th, (DB) 106th, (DC) 107th, (DD) 108th, (DE) 109th, (DF) 110th, (DG) 111th, (DH) 112th, (DI) 113th, (DJ) 114th, (DK) 115th, (DL) 116th, (DM) 117th, (DN) 118th, (DO) 119th, (DP) 120th, (DQ) 121st, (DR) 122nd, (DS) 123rd, (DT) 124th, (DU) 125th, (DV) 126th, (DW) 127th, (DX) 128th, (DY) 129th, (DZ) 130th, (EA) 131st, (EB) 132nd, (EC) 133rd, (ED) 134th, (EE) 135th, (EF) 136th, (EG) 137th, (EH) 138th, (EI) 139th, (EJ) 140th, (EK) 141st, (EL) 142nd, (EM) 143rd, (EN) 144th, (EO) 145th, (EP) 146th, (EQ) 147th, (ER) 148th, (ES) 149th, (ET) 150th, (EU) 151st, (EV) 152nd, (EW) 153rd, (EX) 154th, (EY) 155th, (EZ) 156th, (FA) 157th, (FB) 158th, (FC) 159th, (FD) 160th, (FE) 161st, (FF) 162nd, (FG) 163rd, (FH) 164th, (FI) 165th, (FJ) 166th, (FK) 167th, (FL) 168th, (FM) 169th, (FN) 170th, (FO) 171st, (FP) 172nd, (FQ) 173rd, (FR) 174th, (FS) 175th, (FT) 176th, (FU) 177th, (FV) 178th, (FW) 179th, (FX) 180th, (FY) 181st, (FZ) 182nd, (GA) 183rd, (GB) 184th, (GC) 185th, (GD) 186th, (GE) 187th, (GF) 188th, (GG) 189th, (GH) 190th, (GI) 191st, (GJ) 192nd, (GK) 193rd, (GL) 194th, (GM) 195th, (GN) 196th, (GO) 197th, (GP) 198th, (GQ) 199th, (GR) 200th, (GS) 201st, (GT) 202nd, (GU) 203rd, (GV) 204th, (GW) 205th, (GX) 206th, (GY) 207th, (GZ) 208th, (HA) 209th, (HB) 210th, (HC) 211th, (HD) 212th, (HE) 213th, (HF) 214th, (HG) 215th, (HH) 216th, (HI) 217th, (HJ) 218th, (HK) 219th, (HL) 220th, (HM) 221st, (HN) 222nd, (HO) 223rd, (HP) 224th, (HQ) 225th, (HR) 226th, (HS) 227th, (HT) 228th, (HU) 229th, (HV) 230th, (HW) 231st, (HX) 232nd, (HY) 233rd, (HZ) 234th, (IA) 235th, (IB) 236th, (IC) 237th, (ID) 238th, (IE) 239th, (IF) 240th, (IG) 241st, (IH) 242nd, (II) 243rd, (IJ) 244th, (IK) 245th, (IL) 246th, (IM) 247th, (IN) 248th, (IO) 249th, (IP) 250th, (IQ) 251st, (IR) 252nd, (IS) 253rd, (IT) 254th, (IU) 255th, (IV) 256th, (IW) 257th, (IX) 258th, (IY) 259th, (IZ) 260th, (JA) 261st, (JB) 262nd, (JC) 263rd, (JD) 264th, (JE) 265th, (JF) 266th, (JG) 267th, (JH) 268th, (JI) 269th, (JJ) 270th, (JK) 271st, (JL) 272nd, (JM) 273rd, (JN) 274th, (JO) 275th, (JP) 276th, (JQ) 277th, (JR) 278th, (JS) 279th, (JT) 280th, (JU) 281st, (JV) 282nd, (JW) 283rd, (JX) 284th, (JY) 285th, (JZ) 286th, (KA) 287th, (KB) 288th, (KC) 289th, (KD) 290th, (KE) 291st, (KF) 292nd, (KG) 293rd, (KH) 294th, (KI) 295th, (KJ) 296th, (KK) 297th, (KL) 298th, (KM) 299th, (KN) 300th, (KO) 301st, (KP) 302nd, (KQ) 303rd, (KR) 304th, (KS) 305th, (KT) 306th, (KU) 307th, (KV) 308th, (KW) 309th, (KX) 310th, (KY) 311th, (KZ) 312th, (LA) 313th, (LB) 314th, (LC) 315th, (LD) 316th, (LE) 317th, (LF) 318th, (LG) 319th, (LH) 320th, (LI) 321st, (LJ) 322nd, (LK) 323rd, (LL) 324th, (LM) 325th, (LN) 326th, (LO) 327th, (LP) 328th, (LQ) 329th, (LR) 330th, (LS) 331st, (LT) 332nd, (LU) 333rd, (LV) 334th, (LW) 335th, (LX) 336th, (LY) 337th, (LZ) 338th, (MA) 339th, (MB) 340th, (MC) 341st, (MD) 342nd, (ME) 343rd, (MF) 344th, (MG) 345th, (MH) 346th, (MI) 347th, (MJ) 348th, (MK) 349th, (ML) 350th, (MM) 351st, (MN) 352nd, (MO) 353rd, (MP) 354th, (MQ) 355th, (MR) 356th, (MS) 357th, (MT) 358th, (MU) 359th, (MV) 360th, (MW) 361st, (MX) 362nd, (MY) 363rd, (MZ) 364th, (NA) 365th, (NB) 366th, (NC) 367th, (ND) 368th, (NE) 369th, (NF) 370th, (NG) 371st, (NH) 372nd, (NI) 373rd, (NJ) 374th, (NK) 375th, (NL) 376th, (NM) 377th, (NN) 378th, (NO) 379th, (NP) 380th, (NQ) 381st, (NR) 382nd, (NS) 383rd, (NT) 384th, (NU) 385th, (NV) 386th, (NW) 387th, (NX) 388th, (NY) 389th, (NZ) 390th, (OA) 391st, (OB) 392nd, (OC) 393rd, (OD) 394th, (OE) 395th, (OF) 396th, (OG) 397th, (OH) 398th, (OI) 399th, (OJ) 400th, (OK) 401st, (OL) 402nd, (OM) 403rd, (ON) 404th, (OO) 405th, (OP) 406th, (OQ) 407th, (OR) 408th, (OS) 409th, (OT) 410th, (OU) 411st, (OV) 412nd, (OW) 413rd, (OX) 414th, (OY) 415th, (OZ) 416th, (PA) 417th, (PB) 418th, (PC) 419th, (PD) 420th, (PE) 421st, (PF) 422nd, (PG) 423rd, (PH) 424th, (PI) 425th, (PJ) 426th, (PK) 427th, (PL) 428th, (PM) 429th, (PN) 430th, (PO) 431st, (PP) 432nd, (PQ) 433rd, (PR) 434th, (PS) 435th, (PT) 436th, (PU) 437th, (PV) 438th, (PW) 439th, (PX) 440th, (PY) 441st, (PZ) 442nd, (QA) 443rd, (QB) 444th, (QC) 445th, (QD) 446th, (QE) 447th, (QF) 448th, (QG) 449th, (QH) 450th, (QI) 451st, (QJ) 452nd, (QK) 453rd, (QL) 454th, (QM) 455th, (QN) 456th, (QO) 457th, (QP) 458th, (QQ) 459th, (QR) 460th, (QS) 461st, (QT) 462nd, (QU) 463rd, (QV) 464th, (QW) 465th, (QX) 466th, (QY) 467th, (QZ) 468th, (RA) 469th, (RB) 470th, (RC) 471st, (RD) 472nd, (RE) 473rd, (RF) 474th, (RG) 475th, (RH) 476th, (RI) 477th, (RJ) 478th, (RK) 479th, (RL) 480th, (RM) 481st, (RN) 482nd, (RO) 483rd, (RP) 484th, (RQ) 485th, (RR) 486th, (RS) 487th, (RT) 488th, (RU) 489th, (RV) 490th, (RW) 491st, (RX) 492nd, (RY) 493rd, (RZ) 494th, (SA) 495th, (SB) 496th, (SC) 497th, (SD) 498th, (SE) 499th, (SF) 500th, (SG) 501st, (SH) 502nd, (SI) 503rd, (SJ) 504th, (SK) 505th, (SL) 506th, (SM) 507th, (SN) 508th, (SO) 509th, (SP) 510th, (SQ) 511st, (SR) 512nd, (SS) 513th, (ST) 514th, (SU) 515th, (SV) 516th, (SW) 517th, (SX) 518th, (SY) 519th, (SZ) 520th, (TA) 521st, (TB) 522nd, (TC) 523rd, (TD) 524th, (TE) 525th, (TF) 526th, (TG) 527th, (TH) 528th, (TI) 529th, (TJ) 530th, (TK) 531st, (TL) 532nd, (TM) 533rd, (TN) 534th, (TO) 535th, (TP) 536th, (TQ) 537th, (TR) 538th, (TS) 539th, (TT) 540th, (TU) 541st, (TV) 542nd, (TW) 543rd, (TX) 544th, (TY) 545th, (TZ) 546th, (UA) 547th, (UB) 548th, (UC) 549th, (UD) 550th, (UE) 551st, (UF) 552nd, (UG) 553rd, (UH) 554th, (UI) 555th, (UJ) 556th, (UK) 557th, (UL) 558th, (UM) 559th, (UN) 560th, (UO) 561st, (UP) 562nd, (UQ) 563rd, (UR) 564th, (US) 565th, (UT) 566th, (UU) 567th, (UV) 568th, (UW) 569th, (UX) 570th, (UY) 571st, (UZ) 572nd, (VA) 573rd, (VB) 574th, (VC) 575th, (VD) 576th, (VE) 577th, (VF) 578th, (VG) 579th, (VH) 580th, (VI) 581st, (VJ) 582nd, (VK) 583rd, (VL) 584th, (VM) 585th, (VN) 586th, (VO) 587th, (VP) 588th, (VQ) 589th, (VR) 590th, (VS) 591st, (VT) 592nd, (VU) 593rd, (VV) 594th, (VW) 595th, (VX) 596th, (VY) 597th, (VZ) 598th, (WA) 599th, (WB) 600th, (WC) 601st, (WD) 602nd, (WE) 603rd, (WF) 604th, (WG) 605th, (WH) 606th, (WI) 607th, (WJ) 608th, (WK) 609th, (WL) 610th, (WM) 611st, (WN) 612nd, (WO) 613th, (WP) 614th, (WQ) 615th, (WR) 616th, (WS) 617th, (WT) 618th, (WU) 619th, (WV) 620th, (WX) 621st, (WY) 622nd, (WZ) 623rd, (XA) 624th, (XB) 625th, (XC) 626th, (XD) 627th, (XE) 628th, (XF) 629th, (XG) 630th, (XH) 631st, (XI) 632nd, (XJ) 633rd, (XK) 634th, (XL) 635th, (XM) 636th, (XN) 637th, (XO) 638th, (XP) 639th, (XQ) 640th, (XR) 641st, (XS) 642nd, (XT) 643rd, (XU) 644th, (XV) 645th, (XW) 646th, (XX) 647th, (XY) 648th, (XZ) 649th, (YA) 650th, (YB) 651st, (YC) 652nd, (YD) 653rd, (YE) 654th, (YF) 655th, (YG) 656th, (YH) 657th, (YI) 658th, (YJ) 659th, (YK) 660th, (YL) 661st, (YM) 662nd, (YN) 663rd, (YO) 664th, (YP) 665th, (YQ) 666th, (YR) 667th, (YS) 668th, (YT) 669th, (YU) 670th, (YV) 671st, (YW) 672nd, (YX) 673rd, (YZ) 674th, (ZA) 675th, (ZB) 676th, (ZC) 677th, (ZD) 678th, (ZE) 679th, (ZF) 680th, (ZG) 681st, (ZH) 682nd, (ZI) 683rd, (ZJ) 684th, (ZK) 685th, (ZL) 686th, (ZM) 687th, (ZN) 688th, (ZO) 689th, (ZP) 690th, (ZQ) 691st, (ZR) 692nd, (ZS) 693rd, (ZT) 694th, (ZU) 695th, (ZV) 696th, (ZW) 697th, (ZX) 698th, (ZY) 699th, (ZZ) 700th



Federal Procurement  
Data System -  
Next Generation

### Federal Procurement Data System – Next Generation (FPDS-NG)

This is a Federal government-wide procurement data system. All agencies are required to report transactions over \$2,500 into FPDS-NG.

The best starting point for identifying data sources is to talk with Defense Procurement Acquisition Policy (DPAP)/Professional Acquisition Support Services (PASS), stakeholders, contracting officers, customers, and suppliers who are most directly involved with the commodity being transacted.

Several Federal procurement reporting instruments are useful starting points for collecting spend data including; Federal Procurement Data System – Next Generation (FPDS-NG), DD Form 350 and USASpending.gov. Select each graphic below to learn more.



## Federal Procurement Data System - Next Generation

USAspending.gov receives and displays data pertaining to obligations (amounts awarded for federally sponsored projects during a given budget period), not outlays or expenditures (actual cash disbursements made against each project).



## **Step 2: Identifying Data Sources, Cont.**

Recall from the USMC case example, several sources were used to develop a comprehensive picture of IT spend.

The primary source used to start the analysis was FPDS-NG, but additional analysis revealed other sources for more detailed spend data, including:

- Transaction data from the Marine Corps Contracting Office handling most IT purchases
- Purchase Card data from issuing financial institutions
- Forecast information regarding planned purchases was used to supplement and validate historical data



## **Step 2: Identifying Data Sources, Cont.**

While procurement and financial reporting systems generally suffice for a High-level Portfolio Spend Analysis, data holes and inaccuracies are not uncommon.

Other data sources are typically needed to supplement a more detailed Commodity Spend Analysis which may include:

- Hard copy invoices
- Purchase orders and contracts
- Purchase card reports
- Supplier sales reports
- Operations planning systems
- Materials management systems

Available data sources can typically be uncovered through an understanding of the internal processes and policies followed for purchasing.



### Step 3: Collecting the Data

After the sources of data have been identified, data calls, or requests, can be issued in order to obtain the necessary data.

As previously discussed, key stakeholders should have been made aware of the Spend Analysis initiative through other preliminary communications before they receive a specific request for data. Data requests should be explicit and detailed and cover the following:

- A brief overview of the Spend Analysis initiative and its benefits
- An overview of how spend data will be used
- A description of the data requested, including specific data elements
- The time period for which data is needed
- The preferred format for receiving data (e.g., spreadsheet, database, etc.)
- The requested response date to receive data
- The Spend Analysis Manager's contact information for questions or concerns



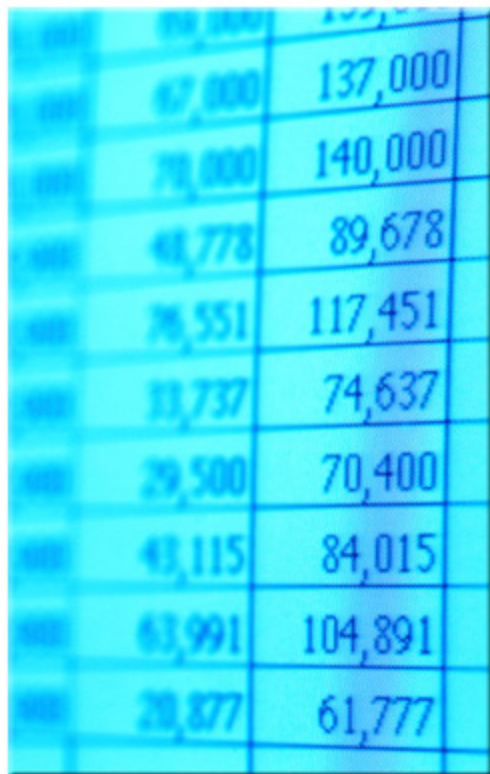
**Step 3: Collecting the Data, Cont.**

As data comes in from the various sources, it must be consolidated into a central spend repository. For smaller data sets, this can be as simple as an Access database or Excel spreadsheet. Alternatively, commercial database applications such as DBII or SQL Server may be used for larger data sets.

The emphasis here is how important it is to explicitly define and communicate the format on how data should be received from data sources. This includes specifying the exact data fields and whether data should be submitted in a spreadsheet or database format.

Considering that a large portfolio group can have as many as a million transaction records, it is important to minimize the amount of data reformatting (an incredibly manual and time intensive process) – although some reformatting is usually inevitable.

Finally, it is important to reach out to "data gatekeepers" so they can review the data in its raw format. This solidifies an understanding of the data and verifies its accuracy and completeness. Interviews with key stakeholders can also provide additional insights into spend behavior and patterns for the target commodity.



|         |         |
|---------|---------|
| 137,000 | 137,000 |
| 140,000 | 140,000 |
| 89,678  | 89,678  |
| 117,451 | 117,451 |
| 74,637  | 74,637  |
| 70,400  | 70,400  |
| 84,015  | 84,015  |
| 104,891 | 104,891 |
| 61,777  | 61,777  |

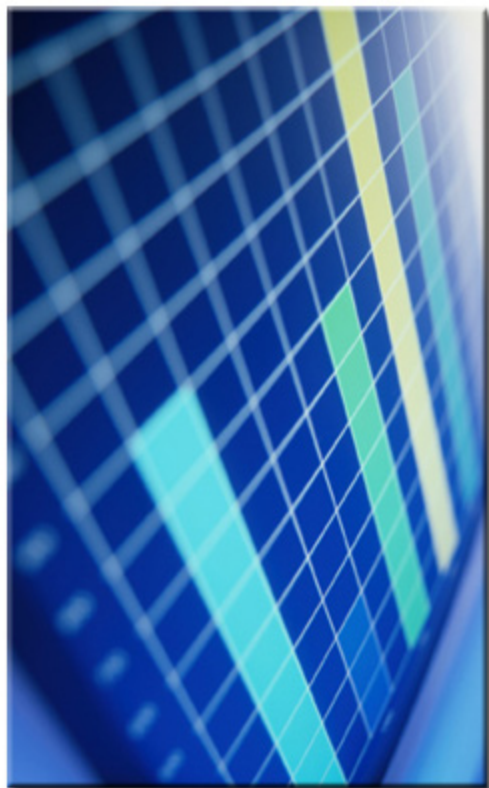
### **Step 3: Collecting the Data, Cont.**

In the USMC case example, DD Form 350 data was collected as the starting point for understanding IT Equipment and Services spend.

After the data was reviewed and analyzed for completeness and accuracy, the commodity team determined that more detailed data would be required for the purposes of developing a commodity strategy.

Initial analysis and interviews with key personnel revealed that one contracting office in particular handled over 85 percent of IT spend. Further analysis revealed that purchase cards represented another source of substantial spend information.

After gathering the data from all sources, the commodity team determined that data received from the primary IT contracting office was the most complete, detailed, and accurate. Therefore, this data was used as the base data set and was supplemented with data from the other sources.



## Knowledge Review

Which step must be completed before spend data can be collected when performing a Spend Analysis?

- ☐ Confirm relevant commodity sub-categories
- ☒ Specify required data fields and formats
- ☐ Standardize supplier names
- ☐ Confirm compliance with Federal Acquisition Regulations

Check Answer

Before data can be collected for a Spend Analysis, **specify required data fields and formats** to ensure data consistency and minimize reformatting once data is received.



### Knowledge Review

Procurement and financial reporting systems generally suffice as data sources for a Detailed Commodity Spend Analysis.

☐ True

☒ False

Check Answer

This is a **false** statement. Because data holes and inaccuracies are not uncommon in procurement and financial reporting systems, other data sources such as hard copy invoices, purchase orders, and original contract documentation are typically needed to supplement a more detailed Commodity Spend Analysis.

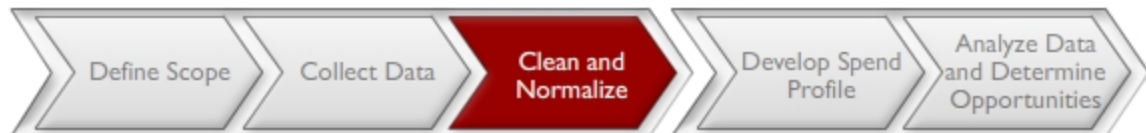




## Clean and Normalize Spend Data

With all of the spend data combined into a single data set, the process of cleansing and normalizing the data can begin. This is by far the most time-consuming and manual part of the Spend Analysis. However, it is also one of the most critical requirements for ensuring an accurate final analysis. This is a two-step process.

### Spend Analysis Process



Step 1: Resolve any data inconsistencies and errors that may skew analysis accuracy.

Step 2: Use the OSD Portfolio Group structure that defines key portfolio categories.



## Clean and Normalize Spend Data

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### Spend Analysis Process

#### Long Description

Graphic illustrates the 5-step Spend Analysis process with the focus on Step 3: Cleanse and Normalize and its sub-steps. There are two sub-steps for Step 3:

- **Step 1** - Clean and Normalize Data: Resolve any data inconsistencies and errors that may skew analysis accuracy.
- **Step 2** - Categorize Data: Use the OSD Portfolio Group structure that defined key portfolio categories.

Categorize Data

Step 2: Use the OSD Portfolio Group structure that defines key portfolio categories.

### **Step 1: Clean and Normalize the Data**

The first step in cleaning the data is to review the entire data set for completeness.

Even though you have knowledge of the commodity and discussion with stakeholders, information gaps may still exist in the data or it may have insufficient detail. There are several options for addressing such gaps:

- Return to existing data sources to try to find missing data.
- Seek out new data sources that may be able to fill in holes.
- Use data extrapolation and other statistical estimation techniques to fill critical gaps.

On the other hand, it is important to find and eliminate any data redundancies. Data overlap is common when combining data from multiple sources.

To eliminate data overlaps, review data records side by side to identify duplicates. Assistance from the original data sources may be needed to resolve any records in question.



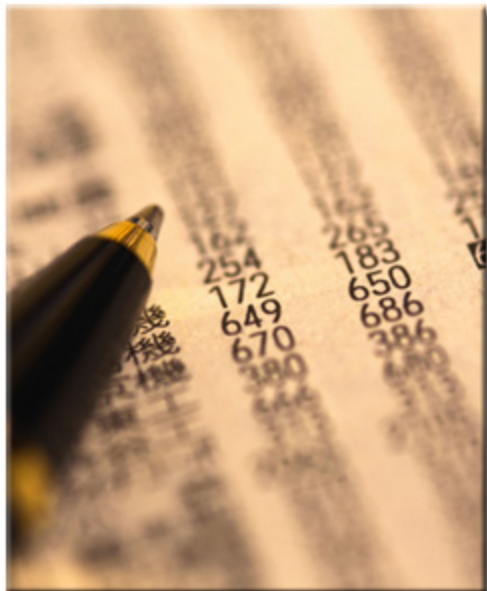
### Step 1: Clean and Normalize the Data, Cont.

Another concern is data accuracy. Scanning the entire data set can assist in identifying errors such as:

- **Mismatched data fields** (e.g., a supplier name is listed in a purchase quantity field)
- **Typographical errors** (e.g., "Software" instead of "Software")
- **Data miscodes** (e.g., an incorrectly assigned FSC code)
- **Other questionable data** (e.g., a purchase date of 2030)

To confirm and correct the most significant data errors, we may need to refer to the original contract document. Again, the original data sources should be consulted regarding any major uncertainties about the data.

[Click here to read data cleansing issues the USMC Spend Analysis team encountered.](#)



## **Popup Text**

### **USMC Case Study**

Among the data cleansing issues the USMC Spend Analysis team encountered were:

#### **Insufficient Detail**

Data obtained from the DD Form 350 system was categorized at a very high level (e.g., Miscellaneous Hardware), making it difficult to determine from this data alone "what" exactly was being purchased. Vague categorization was also an issue with purchase card data. This issue was addressed by identifying the top contracts and actually reviewing the paper contracts to understand the exact IT products or services being purchased.

#### **Miscoding and Other Inaccuracies**

The team discovered that spend totals obtained from the IT contracting office were inflated due to miscoded line items. Some dollar amounts entered for specific contracts were also incorrect, resulting in skewed spend totals. Validating data with actual users who were familiar with specific transactions helped in identifying and then correcting the errors.

#### **Data Overlap**

There were a number of instances of duplicate data across data sources. Once the data overlaps were identified, the source that provided the most accurate and detailed data was used as the primary source.

#### **Lack of Meaningful Data**

Data was not always available that accurately identified the actual end users of the IT products and services being purchased. Having this information is critical as part of the broader Strategic Sourcing process, which involves engaging end users to identify spend requirements, document sourcing issues and challenges, and identify opportunities for sourcing improvements. The Spend Analysis team interviewed

contracting officers who were able to help track original requisitions back to end users.

### Step 1: Clean and Normalize the Data, Cont.

Finally, the data set must be reviewed for consistency. Data inconsistencies are inevitable when combining data from numerous sources. The most common issues are inconsistent units of measure and inconsistent supplier names.

- [Inconsistent Units of Measure](#)
- [Inconsistent Supplier Names](#)



## Step 1: Clean and Normalize the Data, Cont.

Finally, the data set must be reviewed for consistency. Data inconsistencies are inevitable when combining data from numerous sources. The most common issues are inconsistent units of measure and inconsistent supplier names.

- [Inconsistent Units of Measure](#)
- [Inconsistent Supplier Names](#)

### Inconsistent Units of Measure

One data source might truncate dollar figures to the nearest thousand (\$1,000 = \$1,000,000), whereas another data source might write out the entire figure. Either method is fine, as long as all records are consistent.



## Step 1: Clean and Normalize the Data, Cont.

Finally, the data set must be reviewed for consistency. Data inconsistencies are inevitable when combining data from numerous sources. The most common issues are inconsistent units of measure and inconsistent supplier names.

- [Inconsistent Units of Measure](#)
- [Inconsistent Supplier Names](#)

### Inconsistent Supplier Names

A single supplier like Dell Computers, for example, might also be listed as Dell Comp., DELL, Dell, or Dell Inc. Ideally, a single naming standard should be selected and applied to each supplier.

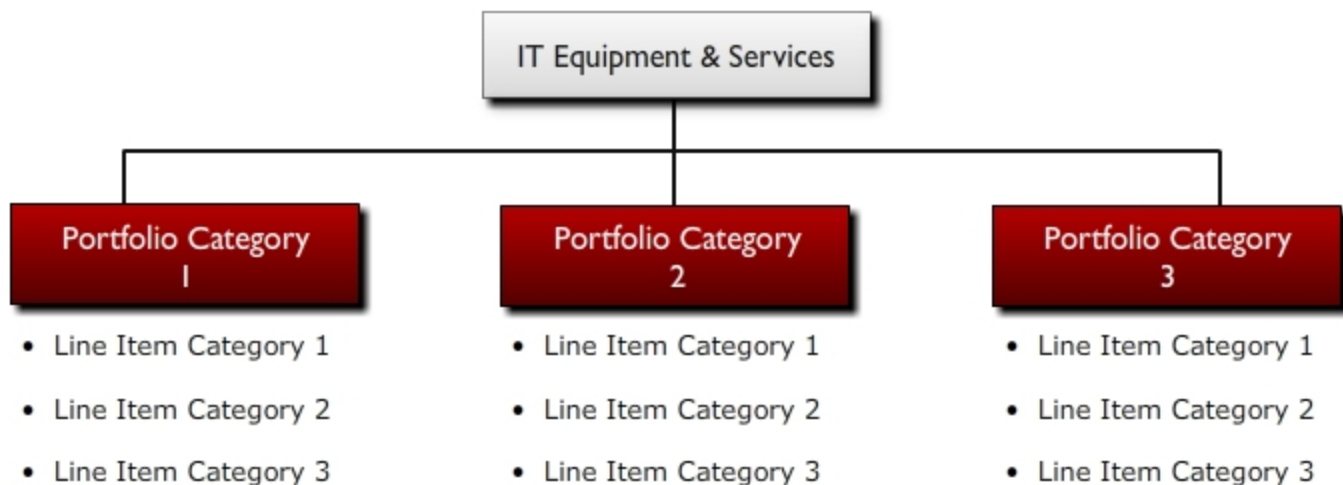
Because this can be a very time-consuming task, a general rule of thumb is to focus on standardizing the 20 percent of suppliers who typically account for 80 percent of the total spend.





## Step 2: Categorizing the Data

The Spend Analysis process began with a high-level commodity category (IT Equipment and Services, in the case of USMC). Now that a list of the actual purchase transactions that were made within this portfolio group has been compiled, the data can be categorized into logical portfolio categories. This portfolio structure forms the foundation of the Spend Analysis.



## Step 2: Categorizing the Data, Cont.

In addition to reviewing the spend data that has been collected for logical product/service groupings, several other approaches must be taken into consideration to gain insights into appropriate sub-commodities. These include researching existing contracts, as well as looking at categorization standards within the relevant commodity industry. Select each tab below for additional information.

**Contract Research** | **Industry Research** | **Industry Definitions**

### Contract Research

For larger transactions, we look at the actual contract documents to understand line-item purchases. We can then start grouping these purchases into logical sub-commodity categories.

For smaller transactions, where the cost of detailed contract research outweighs the benefits, we can extrapolate appropriate sub-commodities based on information gathered from our analysis of larger contracts.

For example, if large suppliers under a given [FSC/PSC](#) code typically provide a certain product or service, we can make the assumption that small suppliers with the same FSC/PSC code do the same.

We may also supplement our contract research by reviewing other documents from the purchasing paper trail such as purchase orders and invoices.



## Step 2: Categorizing the Data, Cont.

In addition to reviewing the spend data that has been collected for logical product/service groupings, several other approaches must be taken into consideration to gain insights into appropriate sub-commodities. These include researching existing contracts, as well as looking at categorization standards within the relevant commodity industry. Select each tab below for additional information.

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We may also see  
paper trail such

#### **Federal Supply Classification (FSC)/Product Service Code (PSC)**

A classification system used by the Federal Government to categorize products and services purchased. Codes are four-digit numeric. The Federal Government's DD-350 and PFDS procurement reporting systems both use FSC/PSC codes to categorize transactions.

purchasing

## Step 2: Categorizing the Data, Cont.

In addition to reviewing the spend data that has been collected for logical product/service groupings, several other approaches must be taken into consideration to gain insights into appropriate sub-commodities. These include researching existing contracts, as well as looking at categorization standards within the relevant commodity industry. Select each tab below for additional information.

[Contract Research](#) **[Industry Research](#)** [Industry Definitions](#)

### Industry Research

Insights of our commodity structure can also be gained by looking at how top suppliers of the commodity define and group their products and services. Typically, product/service categories converge within an industry (particularly those that are more mature) to reflect a relatively stable classification structure.

We can also look at standard industry classification systems such as FSC/PSC or [NAICS](#) to understand how they breakdown a commodity into different categories.



## Step 2: Categorizing the Data, Cont.

In addition to reviewing the spend data that has been collected for logical product/service groupings, several other approaches must be taken into consideration to gain insights into appropriate sub-commodities. These include researching existing contracts, as well as looking at categorization standards within the relevant commodity industry. Select each tab below for additional information.

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We can also look at standard industry classification systems such as FSC/PSC or [NAICS](#) to understand how they break down.

#### **North American Industry Classification System (NAICS)**

A classification system used between the U.S. and Canada to categorize different industries. In the U.S., NAICS has generally replaced the earlier Standard Industrial Classification (SIC) system.

## **Step 2: Categorizing the Data, Cont.**

In addition to reviewing the spend data that has been collected for logical product/service groupings, several other approaches must be taken into consideration to gain insights into appropriate sub-commodities. These include researching existing contracts, as well as looking at categorization standards within the relevant commodity industry. Select each tab below for additional information.

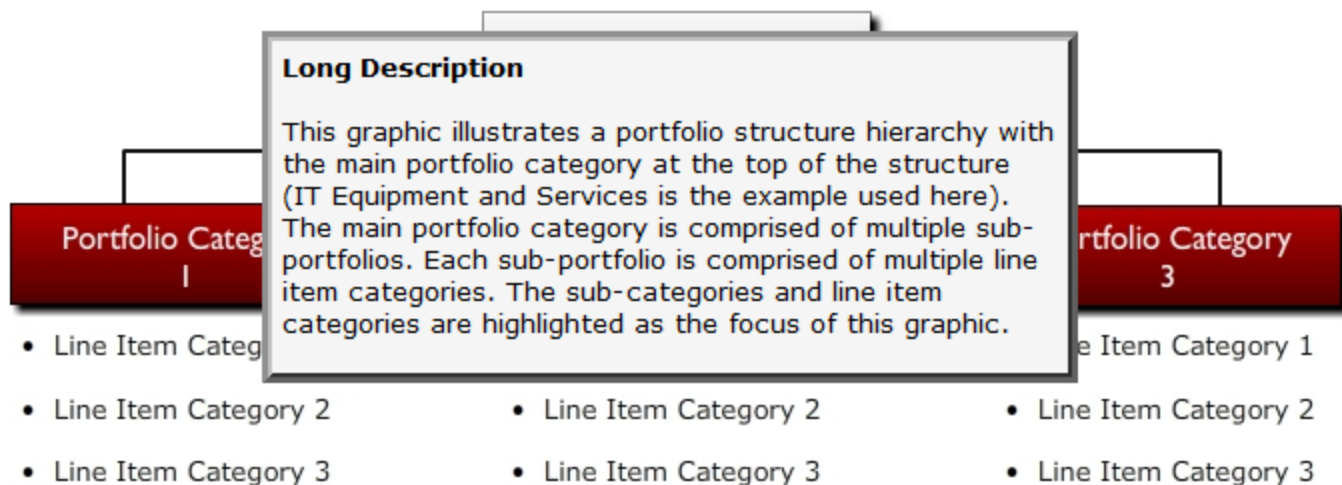
[Contract Research](#) [Industry Research](#) **[Industry Definitions](#)**

### **Industry Definitions**

Standard industry classification systems such as FSC/PSC or NAICS may also be used.

## Step 2: Categorizing the Data

The Spend Analysis process began with a high-level commodity category (IT Equipment and Services, in the case of USMC). Now that a list of the actual purchase transactions that were made within this portfolio group has been compiled, the data can be categorized into logical portfolio categories. This portfolio structure forms the foundation of the Spend Analysis.





## Step 2: Categorizing the Data, Cont.

Finally, all of the information that has been gathered can be put together to develop the portfolio structure.

### Research and Development

- Systems Development
- Operational Systems Development
- Technology Base
- Commercialization

### Electronic & Communication Services

- ADP Services
- Telecom Services
- Equipment Maintenance
- Equipment Leases

### Facility Related Services

- Architect/Engineering Services
- Operation of Government Owned Facilities
- Machinery & Equipment Maintenance
- Building & Plant Maintenance
- Natural Resource Management
- Utilities
- Housekeeping & Social Services
- Purchases & Leases

### Knowledge Based Services

- Engineering Management Services
- Program Management Services
- Logistics Management Services
- Management Support Services
- Administrative & Other Services
- Professional Services
- Education & Training

### Equipment Related Services

- Maintenance, Repair and Overhaul
- Equipment Modification
- Installation of Equipment
- Quality Control
- Technical Representative Services
- Purchases & Leases
- Salvage Services

### Construction Services

- Structures & Facilities
- Conservation & Development Facilities
- Restoration Activities

### Medical Services

- General Medical Services
- Dentistry Services
- Specialty Medical Services

### Transportation Services

- Transportation of Things
- Transportation of People
- Other Travel & Relocation Services



## **Long Description**

Graphic illustrates a sample portfolio structure breakdown with eight portfolio categories: Research and Development; Knowledge Based Services, Electronic and Communication Services; Equipment Related Services; Medical Services, Facility Related Services; Construction Services; and Transportation Services. Beneath each portfolio category, sub-categories are listed.

The sub-categories listed under Research and Development are: Systems Development, Operational Systems Development, Technology Base, and Commercialization.

The sub-categories listed under Knowledge Based Services are: Engineering Management Services; Program Management Services; Logistics Management Services; Management Support Services; Administrative and Other Services; Professional Services; and Education and Training.

The sub-categories listed under Electronic and Communication Services are: ADP Services; Telecom Services; Equipment Maintenance; and Equipment Leases.

The sub-categories listed under Equipment Related Services are: Maintenance, Repair and Overhaul; Equipment Modification; Installation of Equipment, Quality Control; Technical Representative Services; Purchases and Leases; and Salvage Services.

The sub-categories listed under Medical Services are: General Medical Services; Dentistry Services; and Specialty Medical Services.

The sub-categories listed under Facility Related Services are: Architect / Engineering Services; Operation of Government Owned Facilities; Machinery and Equipment Maintenance; Building and Plant Maintenance; Natural Resource Management; Utilities, Housekeeping and Social Services; and Purchases and Leases.

The sub-categories listed under Construction Services are: Structure and Facilities; Conservation and Development Facilities; and Restoration Activities.

The sub-categories listed under Transportation Services are: Transportation of Things; Transportation of

People; and Other Travel and Relocation Services.

### Knowledge Review

Cleansing and normalizing spend data can improve the overall quality of the Spend Analysis, but is not a critical requirement.

☐ True

☒ False

Check Answer

This statement is **false**. Although highly time-consuming and manual, cleansing and normalizing the data is one of the most critical requirements for ensuring an accurate final analysis.



## Knowledge Review

What are the three primary concerns when cleansing and standardizing spend data?

- ☐ Clarity, Completeness, and Feasibility
- ☐ Simplicity, Flexibility, and Accuracy
- ☐ Consistency, Timeliness, and Predictability
- ☒ Completeness, Accuracy, and Consistency

Check Answer

In cleansing and standardizing spend data, the three primary concerns are **completeness, accuracy, and consistency**.



## Summary

This concludes the Preparing for Spend Analysis lesson. You should now be able to:

- Identify the main parameters for defining a Spend Analysis scope.
- Identify the key activities involved with identifying and collecting spend data.
- Identify the key activities involved with cleansing the spend data.



## Lesson Completion

You have completed the content for this lesson.

To continue, select another lesson from the Table of Contents on the left.

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