

# PHARMACEUTICAL PROCESS CLASSIFICATION FRAMEWORK<sup>SM</sup>

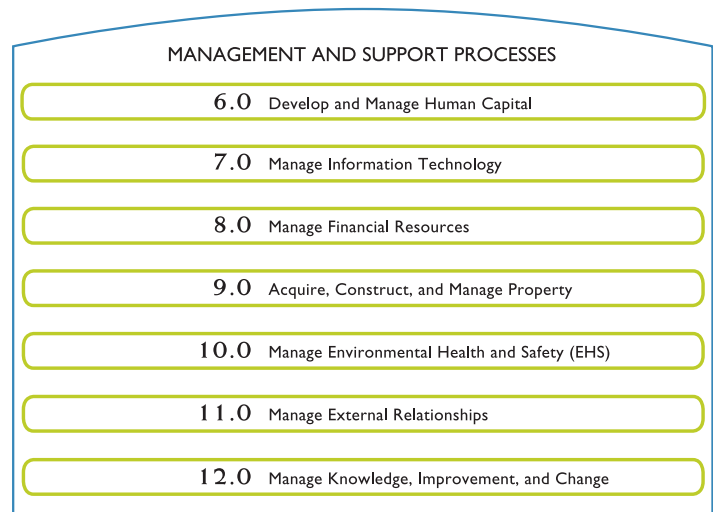
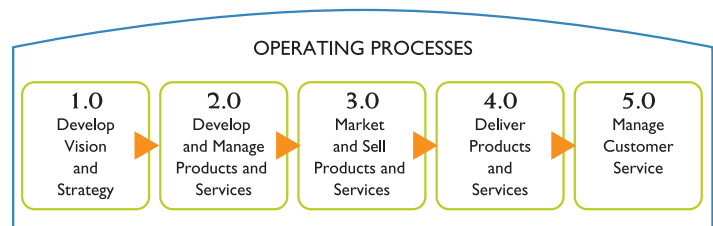
## THE PHARMACEUTICAL PROCESS CLASSIFICATION FRAMEWORK

Based on the renowned Process Classification Framework<sup>SM</sup> (PCF), a taxonomy of cross-functional business processes intended to allow objective comparison of performance within and among organizations, and the support of IBM, this industry PCF enables more industry applicable content by outlining and defining processes and activities specific to the Pharmaceutical industry. This allows organizations to choose the framework most relevant to the specific process improvement need, whether it be benchmarking within or across industries, business process management/re-engineering, or content management. The cross-industry PCF and industry PCFs are available on the APQC website at no charge. IBM provided the subject matter expertise and intellectual property to create the industry specific business process classification frameworks, as part of the IBM's continuing leadership in the promotion of open standards to help organizations evaluate and measure business processes at an industry level.

## THE FRAMEWORK FOR PROCESS IMPROVEMENT

Experience shows that the potential of benchmarking to drive dramatic improvement lies squarely in making out-of-the-box comparisons and searching for insights not typically found within intra-industry paradigms. To enable this beneficial benchmarking, the APQC Process Classification Framework<sup>SM</sup> (PCF) serves as a high-level, industry-neutral enterprise process model that allows organizations to see their business processes from a cross-industry viewpoint.

The cross-industry framework has experienced more than 15 years of creative use by thousands of organizations worldwide. The PCF provides the foundation for APQC's Open Standards Benchmarking<sup>SM</sup> database of performance metrics, the largest of its kind in the world. The PCF will continue to be enhanced as the database further develops definitions, processes, and measures. The PCF, associated measures, and definitions are available for download at no charge at [www.apqc.org/osb](http://www.apqc.org/osb). An online benchmarking portal for individual assessments is also available.



## HISTORY

The cross-industry Process Classification Framework was originally envisioned as a taxonomy of business processes and a common language through which APQC member organizations could benchmark their processes. The initial design involved APQC and more than 80 organizations with strong interest in advancing the use of benchmarking in the United States and worldwide. Since its inception in 1992, the PCF has seen updates to most of its content. These updates keep the framework current with the ways that organizations do business around the world. In 2008, APQC and IBM worked together to enhance the cross-industry PCF and to develop a number of industry-specific process classification frameworks.



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## LOOKING FORWARD

The cross industry and industry Process Classification Frameworks are evolving models, which APQC will continue to enhance and improve regularly. Thus, APQC encourages comments, suggestions, and more importantly, the sharing of insights from having applied the PCF within your organization. Share your suggestions and experiences with the PCF by e-mailing [pcf\\_feedback@apqc.org](mailto:pcf_feedback@apqc.org).

## ABOUT APQC

An internationally recognized resource for process and performance improvement, APQC helps organizations adapt to rapidly changing environments, build new and better ways to work, and succeed in a competitive marketplace. With a focus on productivity, knowledge management, benchmarking, and quality improvement initiatives, APQC works with its member organizations to identify best practices; discover effective methods of improvement; broadly disseminate findings; and connect individuals with one another and the knowledge, training, and tools they need to succeed. Founded in 1977, APQC is a member-based nonprofit serving organizations around the world in all sectors of business, education, and government. APQC is also a proud winner of the 2003 and 2004 North American Most Admired Knowledge Enterprises (MAKE) awards. This award is based on a study by Teleos, a European based research firm, and the KNOW network.

The PCF is written in United States English language format.

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## ABOUT IBM

IBM works with its clients to develop new business designs and technical architectures that allow their businesses the flexibility required to compete in a global business landscape. The business is also adjusting its footprint toward emerging geographies, tapping into IBM's double-digit growth, providing the technology infrastructure they need, and taking advantage of the talent pools provided to better service IBM's clients. IBM's major operations comprise a Global Technology Services segment; a Global Business Services segment; a Systems and Technology segment; a Software segment; and a Global Financing segment. For more information, visit: [www.ibm.com/soa](http://www.ibm.com/soa)

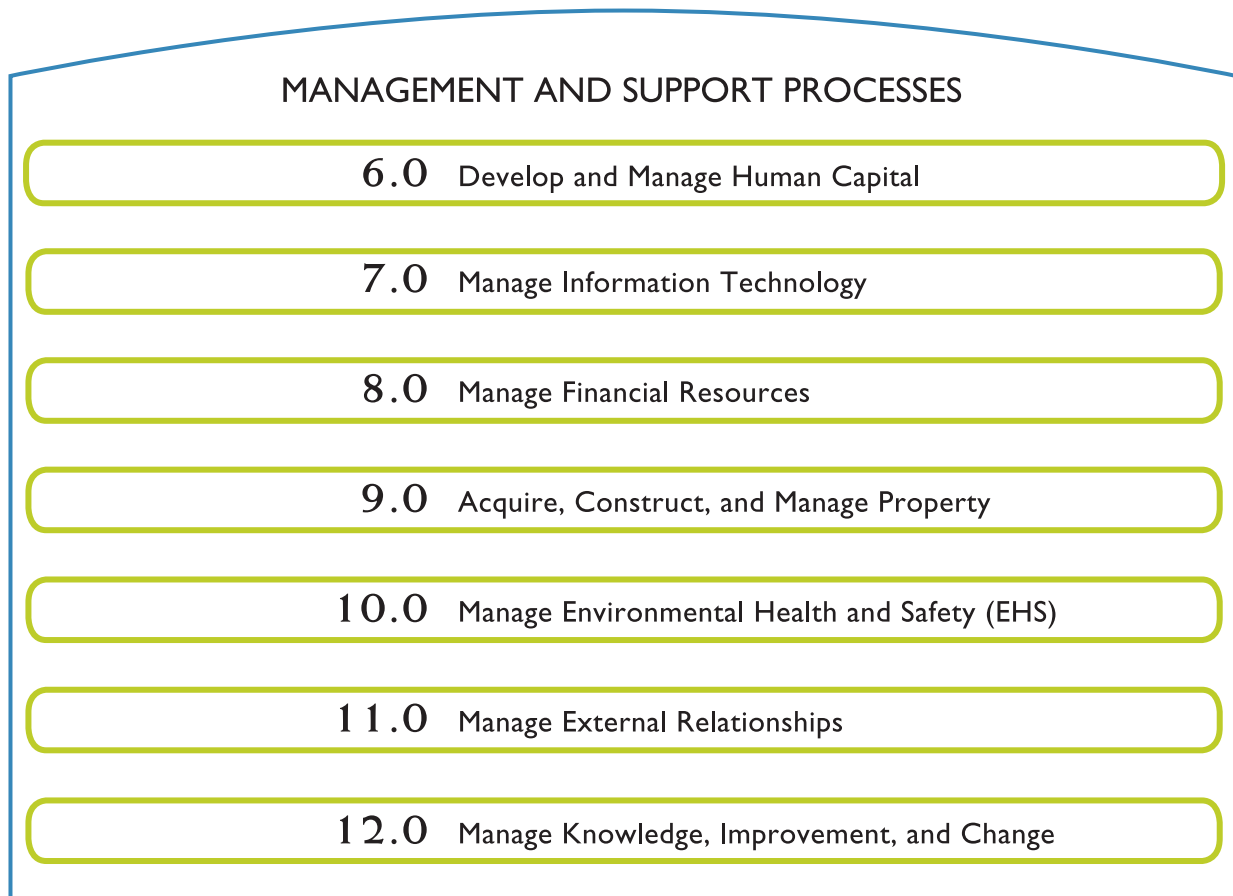
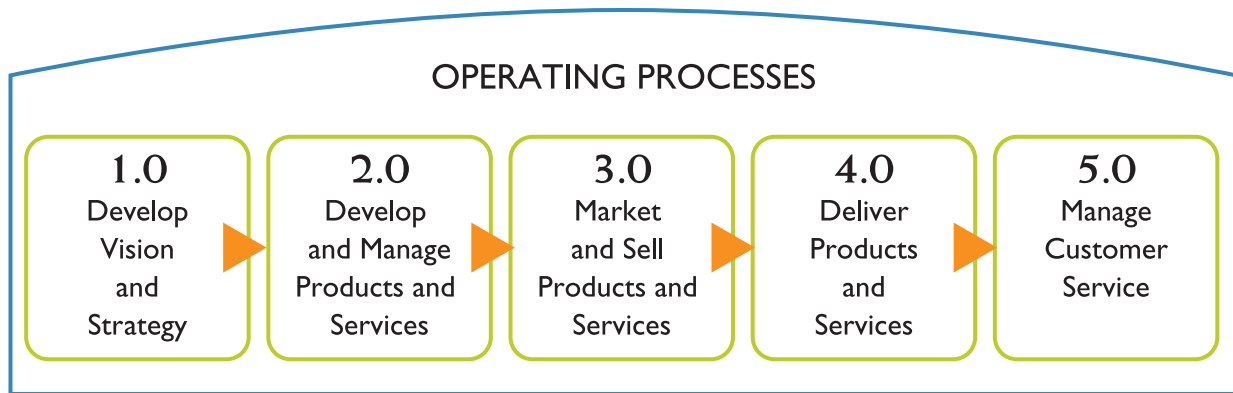
## THE PHARMACEUTICAL PROCESS CLASSIFICATION FRAMEWORK<sup>SM</sup>

### RIGHTS AND PERMISSIONS

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### UNDERSTANDING THE NUMBERING SCHEME

Beginning with Version 5.0.0, the PCF uses a numbering scheme that differs from previous versions. The cross-industry framework and the industry-specific frameworks collectively form a library of process



elements used in APOC’s Open Standards Benchmarking database. Each process element is referred to by two numbers: a number used to locate the content within that particular framework (in the format 1.2.3.4) and a serial number used to uniquely identify the process element across all of the various Open Standards Benchmarking frameworks (beginning with 10000).

For example, the process element “1.2 Develop business strategy (10015)” is uniquely identified by the serial number “10015” and the hierarchical reference number “1.2.” In industry-specific PCFs, any process element identified as “10015” will have the same scope and definition as a process element of the same number elsewhere, but may be labeled differently.

### INTERPRETING THE PCF

**Category:** The highest level within the PCF is indicated by whole numbers (e.g., 8.0 and 9.0)

**Process Group:** Items with one decimal numbering (e.g., 8.1 and 9.1) are considered a process group.

**Process:** Items with two decimal numberings (e.g., 8.1.1 and 9.1.2) are considered processes.

**Activity:** Items with three decimal numbering (e.g. 8.3.1.1 and 9.1.1.1) are considered activities within a process.

The Pharmaceutical PCF is based on the cross-industry PCF Version 5.0.0 released in April 2008.

## I.0 Develop Vision and Strategy (10002)

### 1.1 Define the business concept and long-term vision (10014)

#### 1.1.1 Assess the external environment (10017)

- 1.1.1.1 Analyze and evaluate competition (10021)
- 1.1.1.2 Identify economic trends (10022)
- 1.1.1.3 Identify political and regulatory issues (10023)
- 1.1.1.4 Assess new technology innovations (10024)
- 1.1.1.5 Analyze demographics (10025)
- 1.1.1.6 Identify social and cultural changes (10026)
- 1.1.1.7 Identify ecological concerns (10027)

#### 1.1.2 Survey market and determine customer needs and wants (10018)

- 1.1.2.1 Conduct qualitative/quantitative assessments (10028)
- 1.1.2.2 Capture and assess customer needs (10029)

#### 1.1.3 Perform internal analysis (10019)

- 1.1.3.1 Analyze organizational characteristics (10030)
- 1.1.3.2 Create baselines for current processes (10031)
- 1.1.3.3 Analyze systems and technology (10032)
- 1.1.3.4 Analyze financial positions (10033)
- 1.1.3.5 Identify enterprise core competencies (10034)

#### 1.1.4 Establish strategic vision (10020)

- 1.1.4.1 Align stakeholders around strategic vision (10035)
- 1.1.4.2 Communicate strategic vision to stakeholders (10036)

### 1.2 Develop business strategy (10015)

#### 1.2.1 Develop overall mission statement (10037)

- 1.2.1.1 Define current business (10044)
- 1.2.1.2 Formulate mission (10045)
- 1.2.1.3 Communicate mission (10046)

#### 1.2.2 Evaluate strategic options to achieve the objectives (12740)

- 1.2.2.1 Define strategic options (10047)
- 1.2.2.2 Assess and analyze impact of each option (10048)
- 1.2.2.3 Arrange licensing (in/out) (12741)
- 1.2.2.4 Develop capitation programs (12742)
- 1.2.2.5 Develop joint ventures (12743)
- 1.2.2.6 Perform acquisitions (12744)

#### 1.2.3 Select long-term business strategy (10039)

#### 1.2.4 Coordinate and align functional and process strategies (10040)

#### 1.2.5 Create organizational design (structure, governance, reporting, etc.) (10041)

- 1.2.5.1 Evaluate breadth and depth of organizational structure (10049)
- 1.2.5.2 Perform job specific roles mapping and value-add analyses (10050)
- 1.2.5.3 Develop role activity diagrams to assess hand-off activity (10051)
- 1.2.5.4 Perform organization redesign workshops (10052)
- 1.2.5.5 Design the relationships between organizational units (10053)
- 1.2.5.6 Develop role analysis and activity diagrams for key processes (10054)
- 1.2.5.7 Assess organizational implication of feasible alternatives (10055)
- 1.2.5.8 Migrate to new organization (10056)
- 1.2.5.9 Draft alternative structures (12745)
- 1.2.5.10 Present recommendations to senior client executives (12746)
- 1.2.5.11 Adjust migration (12747)

#### 1.2.6 Develop and set organizational goals (10042)

#### 1.2.7 Formulate business unit strategies (10043)

### 1.3 Manage strategic initiatives (10016)

#### 1.3.1 Develop strategic initiatives (10057)

#### 1.3.2 Evaluate strategic initiatives (10058)

#### 1.3.3 Select strategic initiatives (10059)

- 1.3.3.1 Develop Over The Counter (OTC) / generic business (12748)
- 1.3.3.2 Network for new business (12749)
- 1.3.3.3 Obtain new business financing (12750)
- 1.3.3.4 Structure contracts /milestones /accounting/ tax (12751)

#### 1.3.4 Establish high-level measures (10060)

## 2.0 Develop and Manage Products and Services (10003)

### 2.1 Discover Products (12752)

#### 2.1.1 Manage research (12753)

- 2.1.1.1 Identify targets (12754)
- 2.1.1.2 Validate targets (12755)
- 2.1.1.3 Develop assay (12756)

#### 2.1.2 Perform research/ licensing (12757)

- 2.1.2.1 Acquire and license research knowledge (12758)
- 2.1.2.2 Conduct basic research (12759)
- 2.1.2.3 Manage research technology/information (12760)
- 2.1.2.4 Target basic research efforts (12761)

### 2.2 Manage product and service portfolio (10061)

#### 2.2.1 Evaluate performance of existing products/services against market opportunities (10063)

#### 2.2.2 Define product/service development requirements (10064)

- 2.2.2.1 Identify potential improvements to existing products and services (10068)
- 2.2.2.2 Identify potential new products and services (10069)

#### 2.2.3 Perform discovery research (10065)

- 2.2.3.1 Identify new technologies (10070)
- 2.2.3.2 Develop new technologies (10071)
- 2.2.3.3 Assess feasibility of integrating new leading technologies into product/service concepts (10072)

#### 2.2.4 Confirm alignment of product/service concepts with business strategy (10066)

- 2.2.4.1 Plan and develop cost and quality targets (10073)
- 2.2.4.2 Prioritize and select new product/service concepts (10074)
- 2.2.4.3 Specify development timing targets (10075)
- 2.2.4.4 Plan for product/service offering modifications (10076)

#### 2.2.5 Manage product and service life cycle (10067)

- 2.2.5.1 Introduce new products/services (10077)
- 2.2.5.2 Retire outdated products/services (10078)
- 2.2.5.3 Identify and refine performance indicators (10079)

### 2.3 Develop products and services (10062)

#### 2.3.1 Design, build, and evaluate products and services (10080)

- 2.3.1.1 Assign resources to product/service project (10083)
- 2.3.1.2 Prepare high-level business case and technical assessment (10084)
- 2.3.1.3 Develop product/service design specifications (10085)
- 2.3.1.4 Document design specifications (10086)
- 2.3.1.5 Conduct mandatory and elective external reviews (legal, regulatory, standards, internal) (10087)

2.3.1.6 Build prototypes (10088)

2.3.1.7 Eliminate quality and reliability problems (10089)

2.3.1.8 Conduct in-house product/service testing and evaluate feasibility (10090)

2.3.1.9 Identify design/development performance indicators (10091)

2.3.1.10 Collaborate design with suppliers and contract manufacturers (10092)

#### 2.3.2 Test market for new or revised products and services (10081)

2.3.2.1 Prepare detailed market study (10093)

2.3.2.2 Conduct customer tests and interviews (10094)

2.3.2.3 Finalize product/service characteristics and business cases (10095)

2.3.2.4 Finalize technical requirements (10096)

2.3.2.5 Identify requirements for changes to manufacturing/delivery processes (10097)

2.3.2.6 Complete and report large-scale clinical trials (12762)

#### 2.3.3 Prepare for production (10082)

2.3.3.1 Develop and test prototype production and/or service delivery process (10098)

2.3.3.2 Design and obtain necessary materials and equipment (10099)

2.3.3.3 Install and validate production process or methodology (10100)

#### 2.3.4 Compile and submit dossier (12763)

2.3.4.1 Define regulatory strategy and target product profile (12764)

2.3.4.2 Obtain scientific advice and engage regulators (12765)

2.3.4.3 Assemble registration dossiers (12766)

2.3.4.4 Standardize where possible (12767)

2.3.4.5 Optimize submission process (12768)

2.3.4.6 Monitor speed of approvals (12769)

2.3.4.7 Compile and submit registration dossiers (12770)

#### 2.3.5 Manage regulatory requirements (12771)

2.3.5.1 Train employees on appropriate regulatory requirements (12772)

2.3.5.2 Maintain records for regulatory agencies (12773)

2.3.5.3 File new product process with FDA and receive regulatory approval (12774)

2.3.5.4 Publish (12775)

2.3.5.5 Manage submission life cycle (12776)

## 3.0 Market and Sell Products and Services (10004)

### 3.1 Understand markets, customers and capabilities (10101)

- 3.1.1 Perform customer and market intelligence analysis (10106)
  - 3.1.1.1 Conduct customer and market research (10108)
  - 3.1.1.2 Identify market segments (10109)
  - 3.1.1.3 Analyze market and industry trends (10110)
  - 3.1.1.4 Analyze competing organizations, competitive/substitute products (10111)
  - 3.1.1.5 Evaluate existing products/brands (10112)
  - 3.1.1.6 Assess internal and external business environment (10113)
- 3.1.2 Evaluate and prioritize market opportunities (10107)
  - 3.1.2.1 Quantify market opportunities (10116)
  - 3.1.2.2 Determine target segments (10117)
  - 3.1.2.3 Prioritize opportunities consistent with capabilities and overall business strategy (10118)
  - 3.1.2.4 Validate opportunities (10119)

### 3.2 Develop marketing strategy (10102)

- 3.2.1 Define offering and customer's value proposition (11168)
  - 3.2.1.1 Define offering and positioning (11169)
  - 3.2.1.2 Develop value proposition including brand positioning for target segments (11170)
  - 3.2.1.3 Validate value proposition and shape offering to optimize with target segments (11171)
  - 3.2.1.4 Develop new branding (11172)
- 3.2.2 Define pricing strategy to align to value proposition (10123)
  - 3.2.2.1 Establish guidelines for applying pricing of products/services (10124)
  - 3.2.2.2 Approve pricing strategies/policies (10125)
- 3.2.3 Define and manage channel strategy (10122)
  - 3.2.3.1 Evaluate channel attributes and partners (10126)
  - 3.2.3.2 Determine channel fit with target segments (10127)
  - 3.2.3.3 Select channels for target segments (10128)

### 3.3 Develop sales strategy (10103)

- 3.3.1 Develop sales forecast (10129)
  - 3.3.1.1 Gather current and historic order information (10134)
  - 3.3.1.2 Analyze sales trends and patterns (10135)
  - 3.3.1.3 Generate sales forecast (10136)
  - 3.3.1.4 Analyze historical and planned promotions and events (10137)
  - 3.3.1.5 Gather current and historic order information (NEW) (12777)
  - 3.3.1.6 Analyze trends and patterns (NEW) (12778)
  - 3.3.1.7 Analyze changing channels/markets, product life cycle and competition (NEW) (12779)

### 3.3.2 Develop sales partner/alliance relationships (10130)

- 3.3.2.1 Identify alliance opportunities (10138)
- 3.3.2.2 Design alliance programs and methods for selecting and managing relationships (10139)
- 3.3.2.3 Select alliances (10140)
- 3.3.2.4 Develop partner and alliance management strategies (10141)
- 3.3.2.5 Establish partner and alliance management goals (10142)

### 3.3.3 Establish overall sales budgets (10131)

- 3.3.3.1 Calculate product revenue (10143)
- 3.3.3.2 Determine variable costs (10144)
- 3.3.3.3 Determine overhead and fixed costs (10145)
- 3.3.3.4 Calculate net profit (10146)
- 3.3.3.5 Create budget (10147)

### 3.3.4 Establish sales goals and measures (10132)

### 3.3.5 Establish customer management measures (10133)

- 3.3.5.1 Perform territory analysis and establish composition (NEW) (12780)
- 3.3.5.2 Establish sales force incentive program (NEW) (12781)

### 3.4 Develop and manage marketing plans (10104)

#### 3.4.1 Establish goals, objectives and metrics for products by channels/segments (10148)

#### 3.4.2 Establish marketing budgets (10149)

- 3.4.2.1 Confirm marketing alignment to business strategy (10155)
- 3.4.2.2 Determine costs of marketing (10156)
- 3.4.2.3 Create marketing budget (10157)

#### 3.4.3 Develop and manage media (10150)

- 3.4.3.1 Define media objectives (10158)
- 3.4.3.2 Develop marketing messages (10159)
- 3.4.3.3 Define target audience (10160)
- 3.4.3.4 Engage media provider (10161)
- 3.4.3.5 Develop and execute advertising (10162)
- 3.4.3.6 Develop and execute other marketing campaigns/programs (11253)
- 3.4.3.7 Assess brand/product marketing plan performance (11254)

#### 3.4.4 Develop and manage pricing (10151)

- 3.4.4.1 Determine pricing based on volume/unit forecast (10163)
- 3.4.4.2 Execute pricing plan (10164)
- 3.4.4.3 Evaluate pricing performance (10165)
- 3.4.4.4 Refine pricing as needed (10166)
- 3.4.4.5 Develop and execute Pharmacoeconomics (12782)

#### 3.4.5 Develop and manage promotional activities (10152)

- 3.4.5.1 Define promotional concepts (10167)
- 3.4.5.2 Plan and test promotional activities (10168)
- 3.4.5.3 Execute promotional activities (10169)
- 3.4.5.4 Evaluate promotional performance metrics (10170)



- 3.4.5.5 Refine promotional performance metrics (10171)
- 3.4.5.6 Incorporate learning into future/planned consumer promotions (10172)
- 3.4.6 Track customer management measures (10153)**
  - 3.4.6.1 Determine customer loyalty/lifetime value (10173)
  - 3.4.6.2 Analyze customer revenue trend (10174)
  - 3.4.6.3 Analyze customer attrition and retention rates (10175)
  - 3.4.6.4 Analyze customer metrics (i.e., customer attrition and retention rates) (10176)
  - 3.4.6.5 Revise customer strategies, objectives and plans based on metrics (10177)
- 3.4.7 Develop and manage packaging strategy (10154)**
  - 3.4.7.1 Plan packaging strategy (10178)
  - 3.4.7.2 Test packaging options (10179)
  - 3.4.7.3 Execute packaging strategy (10180)
  - 3.4.7.4 Refine packaging (10181)
- 3.5 Develop and manage sales plans (10105)**
  - 3.5.1 Generate leads (10182)**
    - 3.5.1.1 Identify potential customers (10188)
    - 3.5.1.2 Identify leads (10189)
  - 3.5.2 Manage customers and accounts (10183)**
    - 3.5.2.1 Develop sales/key account plan (11173)
    - 3.5.2.2 Manage customer relationships (11174)
  - 3.5.3 Manage customer sales (10184)**
    - 3.5.3.1 Perform sales calls (10190)
    - 3.5.3.2 Perform pre-sales activities (10191)
    - 3.5.3.3 Close the sale (10192)
    - 3.5.3.4 Record outcome of sales process (10193)
  - 3.5.4 Manage sales orders (10185)**
    - 3.5.4.1 Accept and validate sales orders (10194)
    - 3.5.4.2 Collect and maintain customer account information (10195)
    - 3.5.4.3 Determine stock availability (10196)
    - 3.5.4.4 Determine logistics and transportation (10197)
    - 3.5.4.5 Enter orders into system and identify/perform cross-sell/up-sell activity (10198)
    - 3.5.4.6 Process back orders and updates (10199)
    - 3.5.4.7 Handle order inquiries including post-order fulfillment transactions (10200)
  - 3.5.5 Manage sales force (10186)**
    - 3.5.5.1 Determine sales resource allocation (10209)
    - 3.5.5.2 Establish sales force incentive plan (10210)
  - 3.5.6 Manage sales partners and alliances (10187)**
    - 3.5.6.1 Provide sales and product training to sales partners/alliances (10211)
    - 3.5.6.2 Develop sales forecast by partner/alliance (10212)
    - 3.5.6.3 Agree on partner and alliance commissions (10213)
    - 3.5.6.4 Evaluate partner/alliance results (10214)

## 4.0 Deliver Products and Services (12857)

- 4.1 Plan for and acquire necessary resources (Supply Chain Planning) (10215)**
  - 4.1.1 Develop production and materials strategies (10221)**
    - 4.1.1.1 Define manufacturing goals (10229)
    - 4.1.1.2 Define labor and materials policies (10230)
    - 4.1.1.3 Define outsourcing policies (10231)
    - 4.1.1.4 Define manufacturing capital expense policies (10232)
    - 4.1.1.5 Define capacities (10233)
    - 4.1.1.6 Define production network and supply constraints (10234)
  - 4.1.2 Manage demand for products and services (10222)**
    - 4.1.2.1 Develop baseline forecasts (10235)
    - 4.1.2.2 Collaborate with customers (10236)
    - 4.1.2.3 Develop consensus forecast (10237)
    - 4.1.2.4 Allocate available to promise (10238)
    - 4.1.2.5 Monitor activity against forecast and revise forecast (10239)
    - 4.1.2.6 Evaluate and revise forecasting approach (10240)
    - 4.1.2.7 Measure forecast accuracy (10241)
  - 4.1.3 Create materials plan (10223)**
    - 4.1.3.1 Create unconstrained plan (10242)
    - 4.1.3.2 Collaborate with supplier and contract manufacturers (10243)
    - 4.1.3.3 Identify critical materials and supplier capacity (10244)
    - 4.1.3.4 Monitor material specifications (10245)
    - 4.1.3.5 Generate constrained plan (10246)
  - 4.1.4 Create and manage master production schedule (10224)**
    - 4.1.4.1 Generate site level plan (10247)
    - 4.1.4.2 Manage work-in-progress inventory (10248)
    - 4.1.4.3 Collaborate with suppliers (10249)
    - 4.1.4.4 Generate and execute site schedule (10250)
  - 4.1.5 Plan distribution requirements (10225)**
    - 4.1.5.1 Allocate available to promise (10251)
    - 4.1.5.2 Maintain master data (10252)
    - 4.1.5.3 Determine finished goods inventory requirements at destination (10253)
    - 4.1.5.4 Calculate requirements at destination (10254)
    - 4.1.5.5 Calculate consolidation at source (10255)
    - 4.1.5.6 Manage collaborative replenishment planning (10256)
    - 4.1.5.7 Manage requirements for partners (10257)
    - 4.1.5.8 Calculate destination dispatch plan (10258)
    - 4.1.5.9 Manage dispatch plan attainment (10259)

- 4.1.5.10 Calculate destination load plans (10260)
- 4.1.5.11 Manage partner load plan (10261)
- 4.1.5.12 Manage the cost of supply (10262)
- 4.1.5.13 Manage capacity utilization (10263)
- 4.1.6 Establish distribution planning constraints (10226)**
  - 4.1.6.1 Establish distribution center layout constraints (10267)
  - 4.1.6.2 Establish inventory management constraints (10268)
  - 4.1.6.3 Establish transportation management constraints (10269)
- 4.1.7 Review distribution planning policies (10227)**
  - 4.1.7.1 Review distribution network (10264)
  - 4.1.7.2 Establish sourcing relationships (10265)
  - 4.1.7.3 Establish dynamic deployment policies (10266)
- 4.1.8 Assess distribution planning performance (10228)**
  - 4.1.8.1 Establish appropriate performance indicators (metrics) (10270)
  - 4.1.8.2 Establish monitoring frequency (10271)
  - 4.1.8.3 Calculate performance measures (10272)
  - 4.1.8.4 Identify performance trends (10273)
  - 4.1.8.5 Analyze performance benchmark gaps (10274)
  - 4.1.8.6 Prepare appropriate reports (10275)
  - 4.1.8.7 Develop performance improvement plan (10276)
- 4.1.9 Develop quality standards and procedures (10368)**
  - 4.1.9.1 Establish quality targets (10371)
  - 4.1.9.2 Develop standard testing procedures (10372)
  - 4.1.9.3 Communicate quality specifications (10373)

## **4.2 Plan and Manage Regulatory Approval (12783)**

- 4.2.1 Plan and initiate validation (12784)**
  - 4.2.1.1 Define ownership and responsibility (12785)
  - 4.2.1.2 Develop master validation plan (12786)
  - 4.2.1.3 Review/Approve master validation plan (12787)
- 4.2.2 Develop validation/ qualification protocols (12788)**
  - 4.2.2.1 Develop Installation Qualification (IQ) protocol (12789)
  - 4.2.2.2 Develop Operational/Performance Qualification (OQ/PQ) protocol (12790)
  - 4.2.2.3 Review and approve protocols (12791)
- 4.2.3 Execute validation/ qualification Protocols (12792)**
  - 4.2.3.1 Train participants (12793)
  - 4.2.3.2 Execute validation/qualification protocols (12794)
  - 4.2.3.3 Evaluate results (12795)
  - 4.2.3.4 Prepare validation report (12796)
  - 4.2.3.5 Review and approve validation report (12797)
  - 4.2.3.6 Release and use (12798)
- 4.2.4 Maintain validation program documentation (12799)**
  - 4.2.4.1 Maintain documentation (12800)
  - 4.2.4.2 Review documentation (12801)
- 4.2.5 Develop revalidation maintenance plans (12802)**
  - 4.2.5.1 Maintain a change control plan (12803)
  - 4.2.5.2 Conduct periodic reviews of the validated system (12804)

## **4.3 Procure materials and services (10216)**

- 4.3.1 Develop sourcing strategies (10277)**
  - 4.3.1.1 Develop procurement plan (10281)
  - 4.3.1.2 Clarify purchasing requirements (10282)
  - 4.3.1.3 Develop inventory strategy (10283)
  - 4.3.1.4 Match needs to supply capabilities (10284)
  - 4.3.1.5 Analyze company's spend profile (10285)
  - 4.3.1.6 Seek opportunities to improve efficiency and value (10286)
  - 4.3.1.7 Collaborate with suppliers to identify sourcing opportunities (10287)
- 4.3.2 Select suppliers and develop/maintain contracts (10278)**
  - 4.3.2.1 Select suppliers (10288)
  - 4.3.2.2 Certify and validate suppliers (10289)
  - 4.3.2.3 Negotiate contracts (10290)
  - 4.3.2.4 Manage contracts (10291)
- 4.3.3 Order materials and services (10279)**
  - 4.3.3.1 Process/Review requisitions (10292)
  - 4.3.3.2 Approve requisitions (10293)
  - 4.3.3.3 Solicit/Track vendor quotes (10294)
  - 4.3.3.4 Create/Distribute purchase orders (10295)
  - 4.3.3.5 Expedite orders and satisfy inquiries (10296)
  - 4.3.3.6 Record receipt of goods (10297)
  - 4.3.3.7 Research/Resolve exceptions (10298)
- 4.3.4 Appraise and develop suppliers (10280)**
  - 4.3.4.1 Monitor/Manage supplier information (10299)
  - 4.3.4.2 Prepare/Analyze procurement and vendor performance (10300)
  - 4.3.4.3 Support inventory and production processes (10301)
  - 4.3.4.4 Monitor quality of product delivered (10302)

## **4.4 Produce/Manufacture/Deliver product (10217)**

- 4.4.1 Schedule production (10303)**
  - 4.4.1.1 Generate line level plan (10306)
  - 4.4.1.2 Generate detailed schedule (10307)
  - 4.4.1.3 Schedule production orders and create lots (10308)
  - 4.4.1.4 Release production orders and release create lots (10309)
  - 4.4.1.5 Develop campaign schedule (12805)
  - 4.4.1.6 Develop production schedule (12806)
- 4.4.2 Produce product (10304)**
  - 4.4.2.1 Manage raw material inventory (10310)
  - 4.4.2.2 Execute detailed line schedule (10311)
  - 4.4.2.3 Rerun defective items (10313)
  - 4.4.2.4 Assess production performance (10314)
  - 4.4.2.5 Process order release (12807)
  - 4.4.2.6 Release to EBR (12808)
  - 4.4.2.7 Report (12809)
- 4.4.3 Test Product (12810)**
  - 4.4.3.1 Test and release bulk (12811)
  - 4.4.3.2 Test and release intermediate product (12812)
  - 4.4.3.3 Test and release finished packaged products (12813)



- 4.4.4 **Schedule and perform maintenance (10305)**
  - 4.4.4.1 Determine process for preventive (planned) maintenance (Preventive Maintenance Orders) (10315)
  - 4.4.4.2 Determine process for requested (unplanned) maintenance (Work Order Cycle) (10316)
  - 4.4.4.3 Execute maintenance (10317)
  - 4.4.4.4 Calibrate test equipment (10318)
  - 4.4.4.5 Report maintenance issues (10319)
  - 4.4.4.6 Perform quality control testing (12814)
  - 4.4.4.7 Identify root cause of quality issues (12815)
  - 4.4.4.8 Implement quality improvement measures (12816)
  - 4.4.4.9 Determine process for preventive (planned) maintenance (Preventive Maintenance Orders) (12817)
  - 4.4.4.10 Determine process for requested (unplanned) maintenance (Work Order Cycle) (12818)
  - 4.4.4.11 Manage equipment (12819)
- 4.4.5 **Perform quality testing (10369)**
  - 4.4.5.1 Perform testing using the standard testing procedure (10374)
  - 4.4.5.2 Record test results (10375)
- 4.4.6 **Maintain production records and manage lot traceability (10370)**
  - 4.4.6.1 Determine lot numbering system (10376)
  - 4.4.6.2 Determine lot usage (10377)

#### 4.5 Deliver service to customer (10218)

- 4.5.1 **Confirm specific service requirements for individual customer (10320)**
  - 4.5.1.1 Process customer request (10324)
  - 4.5.1.2 Create customer profile (10325)
  - 4.5.1.3 Generate service order (10326)
- 4.5.2 **Identify and schedule resources to meet service requirements (10321)**
  - 4.5.2.1 Create resourcing plan and schedule (10327)
  - 4.5.2.2 Create service order fulfillment schedule (10328)
  - 4.5.2.3 Develop service order (10329)
- 4.5.3 **Provide the service to specific customers (10322)**
  - 4.5.3.1 Organize daily service order fulfillment schedule (10330)
  - 4.5.3.2 Dispatch resources (10331)
  - 4.5.3.3 Manage order fulfillment progress (10332)
  - 4.5.3.4 Validate order fulfillment block completion (10333)
- 4.5.4 **Ensure quality of service (10323)**
  - 4.5.4.1 Identify completed orders for feedback (10334)
  - 4.5.4.2 Identify incomplete orders and service failures (10335)
  - 4.5.4.3 Solicit customer feedback on services delivered (10336)
  - 4.5.4.4 Process customer feedback on services delivered (10337)

#### 4.6 Manage logistics and warehousing (10219)

- 4.6.1 **Define logistics strategy (10338)**
  - 4.6.1.1 Translate customer service requirements into logistics requirements (10343)
  - 4.6.1.2 Design logistics network (10344)
  - 4.6.1.3 Communicate outsourcing needs (10345)
  - 4.6.1.4 Develop and maintain delivery service policy (10346)
  - 4.6.1.5 Optimize transportation schedules and costs (10347)
  - 4.6.1.6 Define key performance measures (10348)
- 4.6.2 **Plan inbound material flow (10339)**
  - 4.6.2.1 Plan inbound material receipts (10349)
  - 4.6.2.2 Manage inbound material flow (10350)
  - 4.6.2.3 Monitor inbound delivery performance (10351)
  - 4.6.2.4 Manage flow of returned products (10352)
- 4.6.3 **Operate warehousing (10340)**
  - 4.6.3.1 Track inventory deployment (10353)
  - 4.6.3.2 Receive, inspect, and store inbound deliveries (10354)
  - 4.6.3.3 Track product availability (10355)
  - 4.6.3.4 Pick, pack, and ship product for delivery (10356)
  - 4.6.3.5 Track inventory accuracy (10357)
  - 4.6.3.6 Track third-party logistics storage and shipping performance (10358)
  - 4.6.3.7 Manage physical finished goods inventory (10359)
- 4.6.4 **Operate outbound transportation (10341)**
  - 4.6.4.1 Plan, transport, and deliver outbound product (10360)
  - 4.6.4.2 Track carrier delivery performance (10361)
  - 4.6.4.3 Manage transportation fleet (10362)
  - 4.6.4.4 Process and audit carrier invoices and documents (10363)
- 4.6.5 **Manage returns; manage reverse logistics (10342)**
  - 4.6.5.1 Authorize and process returns (10364)
  - 4.6.5.2 Perform reverse logistics (10365)
  - 4.6.5.3 Perform salvage activities (10366)
  - 4.6.5.4 Manage and process warranty claims (10367)
  - 4.6.5.5 Verify the authorization of the process returns (12820)
  - 4.6.5.6 Receive returned product (12821)
  - 4.6.5.7 Determine the disposition of the returned product (12822)
  - 4.6.5.8 Perform the destruction of the returned products (12823)
  - 4.6.5.9 File the destruction with appropriate agency (12824)
  - 4.6.5.10 Manage and process warranty claims (12825)

#### 4.7 Manage Quality Assurance/Quality Control (12826)

- 4.7.1 **Develop and maintain quality management system (12827)**
- 4.7.2 **Develop quality standards and sampling procedures (12828)**
  - 4.7.2.1 Receive sample batch quantity (12829)

- 4.7.2.2 Develop standard testing procedures for all materials (12830)
- 4.7.2.3 Communicate quality specifications (12831)
- 4.7.3 Conduct stability and validating tests and maintain test results (12832)**
  - 4.7.3.1 Perform testing using the standard testing procedure (12833)
  - 4.7.3.2 Record test results (12834)

- 4.7.4 Maintain batch records and manage lot traceability (12835)**
  - 4.7.4.1 Determine batch numbering system (12836)
  - 4.7.4.2 Perform goods issue (12837)
  - 4.7.4.3 Determine batch usage (12838)

## 5.0 Manage Customer Service (10006)

### 5.1 Develop customer care/customer service strategy (10378)

- 5.1.1 Develop customer service segmentation/prioritization (e.g., tiers) (10381)
  - 5.1.1.1 Analyze existing customers (10384)
  - 5.1.1.2 Analyze feedback of customer's needs (10385)
- 5.1.2 Define customer service policies and procedures (10382)
- 5.1.3 Establish service levels for customers (10383)
- 5.1.4 Establish and manage plans to comply with HIPAA and other customer regulations (12839)

### 5.2 Plan and manage customer service operations (10379)

- 5.2.1 Plan and manage customer service work force (10387)
  - 5.2.1.1 Forecast volume of customer service contacts (10390)
  - 5.2.1.2 Schedule customer service work force (10391)
  - 5.2.1.3 Track work force utilization (10392)
  - 5.2.1.4 Monitor and evaluate quality of customer interactions with customer service representatives (10393)
- 5.2.2 Manage customer service requests/inquiries (10388)
  - 5.2.2.1 Receive customer requests/inquiries (10394)
  - 5.2.2.2 Route customer requests/inquiries (10395)
  - 5.2.2.3 Respond to customer requests/inquiries (10396)
- 5.2.3 Report Incidents and Corrective Action Preventive Action (CAPA) (12840)
  - 5.2.3.1 Identify incidents (12841)
  - 5.2.3.2 Investigate incidents (12842)
  - 5.2.3.3 Resolve incidents (12843)
  - 5.2.3.4 Report Corrective Action Preventive Action (CAPA) (12844)
  - 5.2.3.5 Perform and report trending analytics (12845)
- 5.2.4 Manage medical inquiries (12846)
  - 5.2.4.1 Receive medical inquiry (12847)
  - 5.2.4.2 Assign medical inquiry (12848)
  - 5.2.4.3 Track medical inquiry (12849)
  - 5.2.4.4 Respond to medical inquiry (12850)

### 5.2.5 Authorize and manage product returns (12851)

- 5.2.5.1 Receive return request (12852)
- 5.2.5.2 Authorize return (12853)
- 5.2.5.3 Submit return authorization to customer (12854)
- 5.2.5.4 Verify receipt of return goods (12855)

### 5.3 Measure and evaluate customer service operations (10380)

- 5.3.1 Measure customer satisfaction with customer requests/inquiries handling (10401)
  - 5.3.1.1 Gather and solicit post-sale customer feedback on products and services (10404)
  - 5.3.1.2 Solicit post-sale customer feedback on ad effectiveness (10405)
  - 5.3.1.3 Analyze product and service satisfaction data and identify improvement opportunities (10406)
  - 5.3.1.4 Provide customer feedback to product management on products and services (10407)
- 5.3.2 Measure customer satisfaction with customer-complaint handling and resolution (10402)
  - 5.3.2.1 Solicit customer feedback on complaint handling and resolution (11236)
  - 5.3.2.2 Analyze customer complaint data and identify improvement opportunities (11237)
- 5.3.3 Measure customer satisfaction with products and services (10403)
  - 5.3.3.1 Gather and solicit post-sale customer feedback on products and services (11238)
  - 5.3.3.2 Solicit post-sale customer feedback on ad effectiveness (11239)
  - 5.3.3.3 Analyze product and service satisfaction data and identify improvement opportunities (11240)
  - 5.3.3.4 Provide customer feedback to product management on products and services (11241)
  - 5.3.3.5 Manage post marketing clinical trials (12856)

## 6.0 Develop and Manage Human Capital (12858)

### 6.1 Develop and manage human resources (HR) planning, policies, and strategies (10409)

#### 6.1.1 Develop human resources strategy (10415)

- 6.1.1.1 Identify strategic HR needs (10418)
- 6.1.1.2 Define HR and business function roles and accountability (10419)
- 6.1.1.3 Determine HR costs (10420)
- 6.1.1.4 Establish HR measures (10421)
- 6.1.1.5 Communicate HR strategies (10422)

#### 6.1.2 Develop and implement human resources plans (10416)

- 6.1.2.1 Gather skill requirements according to corporate strategy and market environment (10423)
- 6.1.2.2 Plan employee resourcing requirements per unit/organization (10424)
- 6.1.2.3 Develop compensation plan (10425)
- 6.1.2.4 Develop succession plan (10426)
- 6.1.2.5 Develop employee diversity plan (10427)
- 6.1.2.6 Develop other HR programs (10428)
- 6.1.2.7 Develop HR policies (10429)
- 6.1.2.8 Administer HR policies (10430)
- 6.1.2.9 Plan employee benefits (10431)
- 6.1.2.10 Develop strategy for HR systems/ technologies/tools (10432)
- 6.1.2.11 Develop workforce strategy models (10433)

#### 6.1.3 Monitor and update plans (10417)

- 6.1.3.1 Measure realization of objectives (10434)
- 6.1.3.2 Measure contribution to business strategy (10435)
- 6.1.3.3 Communicate plans and provide updates to stakeholders (10436)
- 6.1.3.4 Determine value added from HR function (10437)
- 6.1.3.5 Review and revise HR plans (10438)

### 6.2 Recruit, source, and select employees (10410)

#### 6.2.1 Create and develop employee requisitions (10439)

- 6.2.1.1 Align staffing plan to workforce plan and business unit strategies/resource needs (10445)
- 6.2.1.2 Develop and open job requisition (10446)
- 6.2.1.3 Develop a job description (10447)
- 6.2.1.4 Post requisition (10448)
- 6.2.1.5 Manage internal/external job posting Web sites (10449)
- 6.2.1.6 Change/Update requisition (10450)
- 6.2.1.7 Notify hiring manager (10451)
- 6.2.1.8 Manage requisition date (10452)

#### 6.2.2 Recruit/Source candidates (10440)

- 6.2.2.1 Determine recruitment methods (10453)
- 6.2.2.2 Perform recruiting activities/events (10454)
- 6.2.2.3 Manage recruitment vendors (10455)

#### 6.2.3 Screen and select candidates (10441)

- 6.2.3.1 Identify and deploy candidate selection tools (10456)
- 6.2.3.2 Interview candidates (10457)
- 6.2.3.3 Test candidates (10458)
- 6.2.3.4 Select and reject candidates (10459)

#### 6.2.4 Manage pre-placement verification (10442)

- 6.2.4.1 Complete candidate background information (10460)
- 6.2.4.2 Conduct pre-employment screening (10461)
- 6.2.4.3 Recommend/not recommend candidate (10462)

#### 6.2.5 Manage new hire/re-hire (10443)

- 6.2.5.1 Draw up and make offer (10463)
- 6.2.5.2 Negotiate offer (10464)
- 6.2.5.3 Hire candidate (10465)

#### 6.2.6 Track candidates (10444)

- 6.2.6.1 Create applicant record (10466)
- 6.2.6.2 Manage/track applicant data (10467)
- 6.2.6.3 Archive and retain records of non-hires (10468)

### 6.3 Develop and counsel employees (10411)

#### 6.3.1 Manage employee orientation and deployment (10469)

- 6.3.1.1 Create/maintain employee on-boarding program (10474)
- 6.3.1.2 Introduce new employees to managers (10475)
- 6.3.1.3 Introduce workplace (10476)
- 6.3.1.4 Evaluate the effectiveness of the employee on-boarding program (11243)

#### 6.3.2 Manage employee performance (10470)

- 6.3.2.1 Define performance objectives (10479)
- 6.3.2.2 Review, appraise, and manage employee performance (10480)
- 6.3.2.3 Evaluate and review performance program (10481)

#### 6.3.3 Manage employee relations (10471)

- 6.3.3.1 Manage health and safety (10482)
- 6.3.3.2 Manage labor relations (10483)
- 6.3.3.3 Manage collective bargaining process (10484)
- 6.3.3.4 Manage labor management partnerships (10485)

#### 6.3.4 Manage employee development (10472)

- 6.3.4.1 Develop competency management plans (10486)
- 6.3.4.2 Define employee development guidelines (10487)
- 6.3.4.3 Develop employee career plans (10488)
- 6.3.4.4 Manage employee skills development (10489)

#### 6.3.5 Develop and train employees (10473)

- 6.3.5.1 Align employee and organization development needs (10490)
- 6.3.5.2 Develop competencies (10491)
- 6.3.5.3 Establish training needs by analysis of required and available skills (10492)
- 6.3.5.4 Develop, conduct, and manage employee and/or management training programs (10493)

#### **6.4 Reward and retain employees (10412)**

- 6.4.1 Develop and manage reward, recognition, and motivation programs (10494)
  - 6.4.1.1 Develop salary/compensation structure and plan (10498)
  - 6.4.1.2 Develop benefits and reward plan (10499)
  - 6.4.1.3 Perform competitive analysis of benefit and rewards (10500)
  - 6.4.1.4 Identify compensation requirements based on financial, benefits, and HR policies (10501)
  - 6.4.1.5 Administer compensation and rewards to employees (10502)
  - 6.4.1.6 Reward and motivate employees (10503)
- 6.4.2 Manage and administer benefits (10495)
  - 6.4.2.1 Deliver employee benefits program (10504)
  - 6.4.2.2 Administer benefit enrollment (10505)
  - 6.4.2.3 Process claims (10506)
  - 6.4.2.4 Perform benefit reconciliation (10507)
- 6.4.3 Manage employee assistance and retention (10496)
  - 6.4.3.1 Deliver programs to support work/life balance for employees (10508)
  - 6.4.3.2 Develop family support systems (10509)
  - 6.4.3.3 Review retention and motivation indicators (10510)
  - 6.4.3.4 Review compensation plan (10511)
- 6.4.4 Payroll administration (10497)

#### **6.5 Re-deploy and retire employees (10413)**

- 6.5.1 Manage promotion and demotion process (10512)
- 6.5.2 Manage separation (10513)
- 6.5.3 Manage retirement (10514)
- 6.5.4 Manage leave of absence (10515)

- 6.5.5 Develop and implement employee outplacement (10516)
- 6.5.6 Manage deployment of personnel (10517)
- 6.5.7 Relocate employees and manage assignments (10518)
- 6.5.8 Manage employment reduction and retirement (10519)
- 6.5.9 Manage expatriates (10520)
- 6.5.10 Manage employee relocation process (10521)

#### **6.6 Manage employee information (10414)**

- 6.6.1 Manage reporting processes (10522)
- 6.6.2 Manage employee inquiry process (10523)
- 6.6.3 Manage and maintain employee data (10524)
- 6.6.4 Manage human resource information systems (HRIS) (10525)
- 6.6.5 Develop and manage employee metrics (10526)
- 6.6.6 Develop and manage time and attendance (10527)
- 6.6.7 Manage employee communication (10528)
  - 6.6.7.1 Develop employee communication plan (10529)
  - 6.6.7.2 Manage/collect employee suggestions and perform employee research (10530)
  - 6.6.7.3 Manage employee grievances (10531)
  - 6.6.7.4 Publish employee communications (10532)

#### **6.7 Manage union relations (12859)**

- 6.7.1 Evaluate union relations internally (12860)
- 6.7.2 Evaluate union relations externally (12861)
- 6.7.3 Optimize relations (12862)
- 6.7.4 Monitor relations (12863)

## 7.0 Manage Information Technology (12864)

### 7.1 Manage the business of information technology (10563)

#### 7.1.1 Develop the enterprise IT strategy (10570)

- 7.1.1.1 Build strategic intelligence (10603)
- 7.1.1.2 Identify long-term IT needs of the enterprise in collaboration with stakeholders (10604)
- 7.1.1.3 Define strategic standards, guidelines and principles (10605)
- 7.1.1.4 Define and establish IT architecture and development standards (10606)
- 7.1.1.5 Define strategic vendors for IT components (10607)
- 7.1.1.6 Establish IT governance organization and processes (10608)
- 7.1.1.7 Build strategic plan to support business objectives (10609)

#### 7.1.2 Define the enterprise architecture (10571)

- 7.1.2.1 Establish the enterprise architecture definition (10611)
- 7.1.2.2 Confirm enterprise architecture maintenance approach (10612)
- 7.1.2.3 Maintain the relevance of the enterprise architecture (10613)
- 7.1.2.4 Act as clearinghouse for IT research and innovation (10614)
- 7.1.2.5 Govern the enterprise architecture (10615)

#### 7.1.3 Manage the IT portfolio (10572)

- 7.1.3.1 Establish the IT portfolio (10616)
- 7.1.3.2 Analyze and evaluate the value of the IT portfolio for the enterprise (10617)
- 7.1.3.3 Provision resources in accordance with strategic priorities (10618)

#### 7.1.4 Perform IT research and innovation (10573)

- 7.1.4.1 Research technologies to innovate IT services and solutions (10620)
- 7.1.4.2 Transition viable technologies for IT services and solutions development (10621)

#### 7.1.5 Perform IT financial management (10574)

- 7.1.5.1 Develop and maintain IT services and solutions cost transparency (10622)
- 7.1.5.2 Establish and maintain accounting process (10623)
- 7.1.5.3 Tie project funding to business case decision checkpoints (10624)

#### 7.1.6 Evaluate and communicate IT business value and performance (10575)

- 7.1.6.1 Establish and monitor key performance indicators (10625)
- 7.1.6.2 Evaluate IT plan performance (10626)
- 7.1.6.3 Communicate IT value (10627)

#### 7.1.7 Perform IT staff management (10576)

- 7.1.7.1 Develop IT leadership and staff (10628)
- 7.1.7.2 Manage IT staff performance (10629)

#### 7.1.8 Manage IT suppliers and contracts (10577)

- 7.1.8.1 Develop IT (development and delivery) sourcing strategies (10630)
- 7.1.8.2 Negotiate with suppliers (10631)
- 7.1.8.3 Establish and maintain supplier relationships (10632)
- 7.1.8.4 Evaluate supplier performance (10633)
- 7.1.8.5 Assess contract performance (10634)

### 7.2 Develop and manage IT customer relationships (10564)

#### 7.2.1 Develop IT services and solutions strategy (10578)

- 7.2.1.1 Research IT services and solutions to address business and user requirements (11244)
- 7.2.1.2 Translate business and user requirements into IT services and solutions requirements (11245)
- 7.2.1.3 Formulate IT services and solutions strategic initiatives (11246)
- 7.2.1.4 Coordinate strategies with internal stakeholders to ensure alignment (11247)
- 7.2.1.5 Evaluate and select IT services and solutions strategic initiatives (11248)

#### 7.2.2 Develop and manage IT service levels (10579)

- 7.2.2.1 Create and maintain the IT services and solutions catalog (10640)
- 7.2.2.2 Establish and maintain business and IT service level agreements (10641)
- 7.2.2.3 Evaluate and report service level attainment results (10642)
- 7.2.2.4 Communicate business and IT service level improvement opportunities (10643)

#### 7.2.3 Perform demand side management (DSM) for IT services (10580)

- 7.2.3.1 Analyze IT services and solutions consumption and usage (10644)
- 7.2.3.2 Develop and implement incentive programs that improve consumption efficiency (10645)
- 7.2.3.3 Develop volume/unit forecast for IT services and solutions (10646)

#### 7.2.4 Manage IT customer satisfaction (10581)

- 7.2.4.1 Capture and analyze customer satisfaction (10647)
- 7.2.4.2 Assess and communicate customer satisfaction patterns (10648)
- 7.2.4.3 Initiate improvements based on customer satisfaction patterns (10649)

#### 7.2.5 Market IT services and solutions (10582)

- 7.2.5.1 Develop IT services and solutions marketing strategy (10650)
- 7.2.5.2 Develop and manage IT customer strategy (10651)
- 7.2.5.3 Manage IT services and solutions advertising and promotional campaigns (10652)
- 7.2.5.4 Process and track IT services and solutions orders (10653)



### 7.3 Manage business resiliency and risk (11216)

#### 7.3.1 Develop and manage business resilience (11217)

- 7.3.1.1 Develop the business resilience strategy (11221)
- 7.3.1.2 Perform continuous business operations planning (11222)
- 7.3.1.3 Test continuous business operations (11223)
- 7.3.1.4 Maintain continuous business operations (11224)

#### 7.3.2 Develop and manage regulatory compliance (11218)

- 7.3.2.1 Develop the regulatory compliance strategy (11225)
- 7.3.2.2 Establish regulatory compliance controls (11226)
- 7.3.2.3 Manage regulatory compliance remediation (11227)

#### 7.3.3 Perform integrated risk management (11219)

- 7.3.3.1 Develop an integrated risk strategy and approach (11228)
- 7.3.3.2 Manage integrated risks (11229)

#### 7.3.4 Develop and implement security, privacy, and data protection controls (11220)

- 7.3.4.1 Establish information security, privacy, and data protection strategies and levels (11230)
- 7.3.4.2 Test, evaluate, and implement information security, and privacy and data protection controls (11231)

### 7.4 Manage enterprise information (10565)

#### 7.4.1 Develop information and content management strategies (10583)

- 7.4.1.1 Understand information and content management needs and the role of IT services for executing the business strategy (10654)
- 7.4.1.2 Assess the information and content management implications of new technologies (10655)
- 7.4.1.3 Identify and prioritize information and content management actions (10656)

#### 7.4.2 Define the enterprise information architecture (10584)

- 7.4.2.1 Define information elements, composite structure, logical relationships and constraints, taxonomy, and derivation rules (10657)
- 7.4.2.2 Define information access requirements (10658)
- 7.4.2.3 Establish data custodianship (10659)
- 7.4.2.4 Manage changes to content data architecture requirements (10660)

#### 7.4.3 Manage information resources (10585)

- 7.4.3.1 Define the enterprise information/data policies and standards (10661)
- 7.4.3.2 Develop and implement data and content administration (10662)

#### 7.4.4 Perform enterprise data and content management (10586)

- 7.4.4.1 Define sources and destinations of content data (10663)

- 7.4.4.2 Manage technical interfaces to users of content (10664)

- 7.4.4.3 Manage retention, revision, and retirement of enterprise information (10665)

### 7.5 Develop and maintain information technology solutions (10566)

#### 7.5.1 Develop the IT development strategy (10587)

- 7.5.1.1 Establish sourcing strategy for IT development (10666)
- 7.5.1.2 Define development processes, methodologies, and tools standards (10667)
- 7.5.1.3 Select development methodologies and tools (10668)

#### 7.5.2 Perform IT services and solutions life cycle planning (10588)

- 7.5.2.1 Plan development of new requirements (10669)
- 7.5.2.2 Plan development of feature and functionality enhancement (10670)
- 7.5.2.3 Develop life cycle plan for IT services and solutions (10671)

#### 7.5.3 Develop and maintain IT services and solutions architecture (10589)

- 7.5.3.1 Create IT services and solutions architecture (10672)
- 7.5.3.2 Revise IT services and solutions architecture (10673)
- 7.5.3.3 Retire IT services and solutions architecture (10674)

#### 7.5.4 Create IT services and solutions (10590)

- 7.5.4.1 Understand confirmed requirements (10675)
- 7.5.4.2 Design IT services and solutions (10676)
- 7.5.4.3 Acquire/Develop IT service/solution components (10677)
- 7.5.4.4 Train services and solutions resources (10678)
- 7.5.4.5 Test IT services/solutions (10679)
- 7.5.4.6 Confirm customer acceptance (10680)

#### 7.5.5 Maintain IT services and solutions (10591)

- 7.5.5.1 Understand upkeep/enhance requirements and defect analysis (10681)
- 7.5.5.2 Design change to existing IT service/solution (10682)
- 7.5.5.3 Acquire/develop changed IT service/solution component (10683)
- 7.5.5.4 Test IT service/solution change (10684)
- 7.5.5.5 Retire solutions and services (10685)

### 7.6 Deploy information technology solutions (10567)

#### 7.6.1 Develop the IT deployment strategy (10592)

- 7.6.1.1 Establish IT services and solutions change policies (10686)
- 7.6.1.2 Define deployment process, procedures, and tools standards (10687)
- 7.6.1.3 Select deployment methodologies and tools (10688)

- 7.6.2 **Plan and implement changes (10593)**
  - 7.6.2.1 Plan change deployment (10689)
  - 7.6.2.2 Communicate changes to stakeholders (10690)
  - 7.6.2.3 Administer change schedule (10691)
  - 7.6.2.4 Train impacted users (10692)
  - 7.6.2.5 Distribute and install change (10693)
  - 7.6.2.6 Verify change (10694)
- 7.6.3 **Plan and manage releases (10594)**
  - 7.6.3.1 Understand and coordinate release design and acceptance (10695)
  - 7.6.3.2 Plan release rollout (10696)
  - 7.6.3.3 Distribute and install release (10697)
  - 7.6.3.4 Verify release (10698)

## **7.7 Deliver and support information technology services (10568)**

- 7.7.1 **Develop IT services and solution delivery strategy (10595)**
  - 7.7.1.1 Establish sourcing strategy for IT delivery (10699)
  - 7.7.1.2 Define delivery processes, procedures, and tools standards (10700)
  - 7.7.1.3 Select delivery methodologies and tools (10701)
- 7.7.2 **Develop IT support strategy (10596)**
  - 7.7.2.1 Establish sourcing strategy for IT support (10702)
  - 7.7.2.2 Define IT support services (10703)
- 7.7.3 **Manage IT infrastructure resources (10597)**
  - 7.7.3.1 Manage IT inventory and assets (10704)
  - 7.7.3.2 Manage IT resource capacity (10705)
- 7.7.4 **Manage IT infrastructure operations (10598)**
  - 7.7.4.1 Deliver IT services and solutions (10706)
  - 7.7.4.2 Perform IT operations support services (10707)

- 7.7.5 **Support IT services and solutions (10599)**
  - 7.7.5.1 Manage availability (10708)
  - 7.7.5.2 Manage facilities (10709)
  - 7.7.5.3 Manage backup/recovery (10710)
  - 7.7.5.4 Manage performance and capacity (10711)
  - 7.7.5.5 Manage incidents (10712)
  - 7.7.5.6 Manage problems (10713)
  - 7.7.5.7 Manage inquiries (10714)

## **7.8 Manage IT knowledge (10569)**

- 7.8.1 **Develop IT knowledge management strategy (10600)**
  - 7.8.1.1 Understand IT knowledge needs (10715)
  - 7.8.1.2 Understand current IT knowledge flow (10716)
  - 7.8.1.3 Coordinate strategy and roles with the enterprise KM function (10717)
  - 7.8.1.4 Plan IT knowledge management actions and priorities (10718)
- 7.8.2 **Develop and maintain IT knowledge map (10601)**
  - 7.8.2.1 Define knowledge elements, logical relationships and constraints, and currency rules (10719)
  - 7.8.2.2 Identify IT knowledge sources and repositories (10720)
  - 7.8.2.3 Identify IT knowledge-sharing opportunities (10721)
  - 7.8.2.4 Define IT knowledge processes and approaches (10722)
- 7.8.3 **Manage IT knowledge life cycle (10602)**
  - 7.8.3.1 Gather knowledge elements from IT knowledge sources (10723)
  - 7.8.3.2 Evaluate, create, and codify knowledge elements (10724)
  - 7.8.3.3 Deploy codified IT knowledge (10725)
  - 7.8.3.4 Update and retire IT knowledge (10726)
  - 7.8.3.5 Evaluate and improve IT knowledge strategies and processes (10727)

## 8.0 Manage Financial Resources (10009)

### 8.1 Perform planning and management accounting (10728)

#### 8.1.1 Perform planning/budgeting/forecasting (10738)

- 8.1.1.1 Develop and maintain budget policies and procedures (10771)
- 8.1.1.2 Prepare periodic budgets and plans (10772)
- 8.1.1.3 Prepare periodic financial forecasts (10773)
- 8.1.1.4 Develop project budgets (12865)

#### 8.1.2 Perform cost accounting and control (10739)

- 8.1.2.1 Perform inventory accounting (10774)
- 8.1.2.2 Perform cost of sales analysis (10775)
- 8.1.2.3 Perform product costing (10776)
- 8.1.2.4 Perform variance analysis (10777)
- 8.1.2.5 Report on profitability (11175)

#### 8.1.3 Perform cost management (10740)

- 8.1.3.1 Determine key cost drivers (10778)
- 8.1.3.2 Measure cost drivers (10779)
- 8.1.3.3 Determine critical activities (10780)
- 8.1.3.4 Manage asset resource deployment and utilization (10781)

#### 8.1.4 Evaluate and manage financial performance (10741)

- 8.1.4.1 Assess customer and product profitability (10782)
- 8.1.4.2 Evaluate new products (10783)
- 8.1.4.3 Perform life cycle costing (10784)
- 8.1.4.4 Optimize customer and product mix (10785)
- 8.1.4.5 Track performance of new customer and product strategies (10786)
- 8.1.4.6 Prepare activity-based performance measures (10787)
- 8.1.4.7 Manage continuous cost improvement (10788)

### 8.2 Perform revenue accounting (10729)

#### 8.2.1 Process customer credit (10742)

- 8.2.1.1 Establish credit policies (10789)
- 8.2.1.2 Analyze/Approve new account applications (10790)
- 8.2.1.3 Review existing accounts (10791)
- 8.2.1.4 Produce credit/collection reports (10792)
- 8.2.1.5 Reinstate or suspend accounts based on credit policies (10793)

#### 8.2.2 Invoice customer (10743)

- 8.2.2.1 Maintain customer/product master files (10794)
- 8.2.2.2 Generate customer billing data (10795)
- 8.2.2.3 Transmit billing data to customers (10796)
- 8.2.2.4 Post receivable entries (10797)
- 8.2.2.5 Resolve customer billing inquires (10798)

#### 8.2.3 Process accounts receivable (AR) (10744)

- 8.2.3.1 Establish AR policies (10799)
- 8.2.3.2 Receive/Deposit customer payments (10800)
- 8.2.3.3 Apply cash remittances (10801)
- 8.2.3.4 Prepare AR reports (10802)
- 8.2.3.5 Post AR activity to the general ledger (10803)

### 8.2.4 Manage and process collections (10745)

- 8.2.4.1 Establish policies for delinquent accounts (10804)
- 8.2.4.2 Analyze delinquent account balances (10805)
- 8.2.4.3 Correspond/Negotiate with delinquent accounts (10806)
- 8.2.4.4 Discuss account resolution with internal parties (10807)
- 8.2.4.5 Process adjustments/write-off balances (10808)

### 8.2.5 Manage and process adjustments/deductions (10746)

- 8.2.5.1 Establish policies/procedures for adjustments (10809)
- 8.2.5.2 Analyze adjustments (10810)
- 8.2.5.3 Correspond/Negotiate with customer (10811)
- 8.2.5.4 Discuss resolution with internal parties (10812)
- 8.2.5.5 Prepare chargeback invoices (10813)
- 8.2.5.6 Process related entries (10814)

### 8.3 Perform general accounting and reporting (10730)

#### 8.3.1 Manage policies and procedures (10747)

- 8.3.1.1 Negotiate service level agreements (10815)
- 8.3.1.2 Establish accounting policies (10816)
- 8.3.1.3 Set and enforce approval limits (10817)
- 8.3.1.4 Establish common financial systems (10818)

#### 8.3.2 Perform general accounting (10748)

- 8.3.2.1 Maintain chart of accounts (10819)
- 8.3.2.2 Process journal entries (10820)
- 8.3.2.3 Process allocations (10821)
- 8.3.2.4 Process period end adjustments (e.g., accruals, currency conversions, etc.) (10822)
- 8.3.2.5 Post and reconcile intercompany transactions (10823)
- 8.3.2.6 Reconcile GL accounts (10824)
- 8.3.2.7 Perform consolidations and process eliminations (10825)
- 8.3.2.8 Prepare trial balance (10826)
- 8.3.2.9 Prepare and post management adjustments (10827)

#### 8.3.3 Perform fixed asset accounting (10749)

- 8.3.3.1 Establish fixed asset policies and procedures (10828)
- 8.3.3.2 Maintain fixed asset master data files (10829)
- 8.3.3.3 Process and record fixed asset additions and retires (10830)
- 8.3.3.4 Process and record fixed asset adjustments, enhancements, revaluations, and transfers (10831)
- 8.3.3.5 Process and record fixed asset maintenance and repair expenses (10832)
- 8.3.3.6 Calculate and record depreciation expense (10833)

- 8.3.3.7 Reconcile fixed asset ledger (10834)
- 8.3.3.8 Track fixed assets including physical inventory (10835)
- 8.3.3.9 Provide fixed asset data to support tax, statutory, and regulatory reporting (10836)
- 8.3.4 Perform financial reporting (10750)**
  - 8.3.4.1 Prepare business unit financial statements (10837)
  - 8.3.4.2 Prepare consolidated financial statements (10838)
  - 8.3.4.3 Perform business unit reporting/review management reports (10839)
  - 8.3.4.4 Perform consolidated reporting/review of cost management reports (10840)
  - 8.3.4.5 Prepare statements for board review (10841)
  - 8.3.4.6 Produce quarterly/annual filings and shareholder reports (10842)
  - 8.3.4.7 Produce regulatory reports (10843)
- 8.4 Manage fixed asset project accounting (10731)**
  - 8.4.1 Perform capital planning and project approval (10751)**
    - 8.4.1.1 Develop capital investment policies and procedures (10844)
    - 8.4.1.2 Develop and approve capital expenditure plans and budgets (10845)
    - 8.4.1.3 Review and approve capital projects and fixed asset acquisitions (10846)
    - 8.4.1.4 Conduct financial justification for project approval (10847)
  - 8.4.2 Perform capital project accounting (10752)**
    - 8.4.2.1 Create project account codes (10848)
    - 8.4.2.2 Record project-related transactions (10849)
    - 8.4.2.3 Monitor and track capital projects and budget spending (10850)
    - 8.4.2.4 Close/capitalize projects (10851)
    - 8.4.2.5 Measure financial returns on completed capital projects (10852)
- 8.5 Process payroll (10732)**
  - 8.5.1 Report time (10753)**
    - 8.5.1.1 Establish policies and procedures (10853)
    - 8.5.1.2 Collect and record employee time worked (10854)
    - 8.5.1.3 Analyze and report paid and unpaid leave (10855)
    - 8.5.1.4 Monitor regular, overtime, and other hours (10856)
    - 8.5.1.5 Analyze and report employee utilization (10857)
  - 8.5.2 Manage pay (10754)**
    - 8.5.2.1 Enter employee time worked into payroll system (10858)
    - 8.5.2.2 Maintain and administer employee earnings information (10859)
    - 8.5.2.3 Maintain and administer applicable deductions (10860)
    - 8.5.2.4 Monitor changes in tax status of employees (10861)
  - 8.5.2.5 Process and distribute payments (10862)
  - 8.5.2.6 Process and distribute manual checks (10863)
  - 8.5.2.7 Process period end adjustments (10864)
  - 8.5.2.8 Respond to employee payroll inquires (10865)
  - 8.5.3 Process payroll taxes (10755)**
    - 8.5.3.1 Calculate and pay applicable payroll taxes (10866)
    - 8.5.3.2 Produce and distribute employee annual tax statements (10867)
    - 8.5.3.3 File regulatory payroll tax forms (10868)
- 8.6 Process accounts payable and expense reimbursements (10733)**
  - 8.6.1 Process accounts payable (AP) (10756)**
    - 8.6.1.1 Verify AP pay file with PO vendor master file (10869)
    - 8.6.1.2 Maintain/manage electronic commerce (10870)
    - 8.6.1.3 Audit invoices and key data in AP system (10871)
    - 8.6.1.4 Approve payments (10872)
    - 8.6.1.5 Process financial accruals and reversals (10873)
    - 8.6.1.6 Process taxes (10874)
    - 8.6.1.7 Research/resolve exceptions (10875)
    - 8.6.1.8 Process payments (10876)
    - 8.6.1.9 Respond to AP inquires (10877)
    - 8.6.1.10 Retain records (10878)
    - 8.6.1.11 Adjust accounting records (10879)
  - 8.6.2 Process expense reimbursements (10757)**
    - 8.6.2.1 Establish and communicate expense reimbursement policies and approval limits (10880)
    - 8.6.2.2 Capture and report relevant tax data (10881)
    - 8.6.2.3 Approve reimbursements and advances (10882)
    - 8.6.2.4 Process reimbursements and advances (10883)
    - 8.6.2.5 Manage personal accounts (10884)
- 8.7 Manage treasury operations (10734)**
  - 8.7.1 Manage treasury policies and procedures (10758)**
    - 8.7.1.1 Establish scope and governance of treasury operations (10885)
    - 8.7.1.2 Establish and publish treasury policies (10886)
    - 8.7.1.3 Develop treasury procedures (10887)
    - 8.7.1.4 Monitor treasury procedures (10888)
    - 8.7.1.5 Audit treasury procedures (10889)
    - 8.7.1.6 Revise treasury procedures (10890)
    - 8.7.1.7 Develop and confirm internal controls for treasury (10891)
    - 8.7.1.8 Define system security requirements (10892)
  - 8.7.2 Manage cash (10759)**
    - 8.7.2.1 Manage and reconcile cash positions (10893)
    - 8.7.2.2 Manage cash equivalents (10894)
    - 8.7.2.3 Process and oversee electronic fund transfers (EFTs) (10895)
    - 8.7.2.4 Develop cash flow forecasts (10896)
    - 8.7.2.5 Manage cash flows (10897)
    - 8.7.2.6 Produce cash management accounting transactions and reports (10898)

- 8.7.2.7 Manage and oversee banking relationships (10899)
- 8.7.2.8 Analyze, negotiate, resolve, and confirm bank fees (10900)
- 8.7.3 Manage in-house bank accounts (10760)**
  - 8.7.3.1 Manage in-house bank accounts for subsidiaries (10901)
  - 8.7.3.2 Manage and facilitate inter-company borrowing transactions (10902)
  - 8.7.3.3 Manage centralized outgoing payments on behalf of subsidiaries (10903)
  - 8.7.3.4 Manage central incoming payments on behalf of subsidiaries (10904)
  - 8.7.3.5 Manage internal payments and netting transactions (10905)
  - 8.7.3.6 Calculate interest and fees for in-house bank accounts (10906)
  - 8.7.3.7 Provide account statements for in-house bank accounts (10907)
- 8.7.4 Manage debt and investment (10761)**
  - 8.7.4.1 Manage financial intermediary relationships (10908)
  - 8.7.4.2 Manage liquidity (10909)
  - 8.7.4.3 Manage issuer exposure (10910)
  - 8.7.4.4 Process and oversee debt and investment transactions (10911)
  - 8.7.4.5 Process and oversee foreign currency transactions (10912)
  - 8.7.4.6 Produce debt and investment accounting transaction reports (10913)
- 8.7.5 Manage financial risks (11208)**
  - 8.7.5.1 Manage interest rate risk (11209)
  - 8.7.5.2 Manage foreign exchange risk (11210)
  - 8.7.5.3 Manage exposure risk (11211)
  - 8.7.5.4 Develop and execute hedging transactions (11212)
  - 8.7.5.5 Evaluate and refine hedging positions (11213)
  - 8.7.5.6 Produce hedge accounting transactions and reports (11214)
  - 8.7.5.7 Monitor credit (11215)
- 8.8 Manage internal controls (10735)**
  - 8.8.1 Establish internal controls, policies and procedures (10762)**
    - 8.8.1.1 Establish board of directors and audit committee (10914)
  - 8.8.1.2 Define and communicate code of ethics (10915)
  - 8.8.1.3 Assign roles and responsibility for internal controls (10916)
  - 8.8.1.4 Define business process objectives and risks (11250)
  - 8.8.1.5 Define entity/unit risk tolerances (11251)
  - 8.8.2 Operate controls and monitor compliance with internal controls policies and procedures (10763)**
    - 8.8.2.1 Design and implement control activities (10917)
    - 8.8.2.2 Monitor control effectiveness (10918)
    - 8.8.2.3 Remediate control deficiencies (10919)
    - 8.8.2.4 Create compliance function (10920)
    - 8.8.2.5 Operate compliance function (10921)
    - 8.8.2.6 Implement and maintain controls-related enabling technologies and tools (10922)
  - 8.8.3 Report on internal controls compliance (10764)**
    - 8.8.3.1 Report to external auditors (10923)
    - 8.8.3.2 Report to regulators, share/debt-holders, securities exchanges, etc. (10924)
    - 8.8.3.3 Report to third parties (e.g., business partners) (10925)
    - 8.8.3.4 Report to internal management (10926)
- 8.9 Manage taxes (10736)**
  - 8.9.1 Develop tax strategy and plan (10765)**
    - 8.9.1.1 Calculate foreign, national, state and local taxes (12866)
    - 8.9.1.2 Consolidate and optimize total tax plan (12867)
    - 8.9.1.3 Maintain tax master data (12868)
  - 8.9.2 Process taxes (10766)**
    - 8.9.2.1 Perform tax planning/strategy (10930)
    - 8.9.2.2 Prepare returns (10931)
    - 8.9.2.3 Prepare foreign taxes (10932)
    - 8.9.2.4 Calculate deferred taxes (10933)
    - 8.9.2.5 Account for taxes (10934)
    - 8.9.2.6 Monitor tax compliance (10935)
    - 8.9.2.7 Address tax inquiries (10936)
- 8.10 Manage international funds/consolidation (10737)**
  - 8.10.1 Monitor international rates (10767)
  - 8.10.2 Manage transactions (10768)
  - 8.10.3 Monitor currency exposure/hedge currency (10769)
  - 8.10.4 Report results (10770)



## 9.0 Acquire, Construct, and Manage Property (10010)

### 9.1 Design and construct/acquire non-productive assets (10937)

- 9.1.1 Develop property strategy and long term vision (10941)
  - 9.1.1.1 Confirm alignment of property requirements with business strategy (10955)
  - 9.1.1.2 Assess the external environment (10956)
  - 9.1.1.3 Determine build or buy decision (10957)
- 9.1.2 Develop, construct, and modify sites (10942)
- 9.1.3 Plan facility (10943)
  - 9.1.3.1 Design facility (10958)
  - 9.1.3.2 Analyze budget (10959)
  - 9.1.3.3 Select property (10960)
  - 9.1.3.4 Negotiate terms for facility (10961)
  - 9.1.3.5 Manage construction or modification to building (10962)
- 9.1.4 Provide workspace and assets (10944)
  - 9.1.4.1 Acquire workspace and assets (10963)
  - 9.1.4.2 Change fit/form/function of workspace and assets (10964)

### 9.2 Maintain non-productive assets (10938)

- 9.2.1 Move people and assets (10945)
  - 9.2.1.1 Relocate people (10965)
  - 9.2.1.2 Relocate material and tools (10966)
- 9.2.2 Repair workplace and assets (10946)
- 9.2.3 Provide preventative maintenance for workplace and assets (10947)
- 9.2.4 Manage security (10948)
- 9.2.5 Manage facilities operations (10949)

### 9.3 Obtain, install and plan maintenance for productive assets (10939)

- 9.3.1 Develop ongoing maintenance policies for production assets (10950)
  - 9.3.1.1 Analyze assets and predict maintenance requirements (10967)
  - 9.3.1.2 Develop approach to integrate preventive maintenance into production schedule (10968)
- 9.3.2 Obtain and install equipment (10951)
  - 9.3.2.1 Design engineering solution for the manufacturing process (10969)
  - 9.3.2.2 Procure equipment (10970)
  - 9.3.2.3 Install and commission equipment (10971)

### 9.4 Dispose of productive and non-productive assets (10940)

- 9.4.1 Develop exit strategy (10952)
- 9.4.2 Perform sale or trade (10953)
- 9.4.3 Perform abandonment (10954)

### 9.5 Manage physical risk (11207)

## 10.0 Manage Environmental Health and Safety (EHS) (11179)

### 10.1 Determine health, safety, and environment impacts (11180)

- 10.1.1 Evaluate environmental impact of products, services, and operations (11186)
- 10.1.2 Conduct health and safety and environmental audits (11187)

### 10.2 Develop and execute health, safety, and environmental program (11181)

- 10.2.1 Identify regulatory and stakeholder requirements (11188)
- 10.2.2 Assess future risks and opportunities (11189)
- 10.2.3 Create EHS policy (11190)
- 10.2.4 Record and manage EHS events (11191)

### 10.3 Train and educate employees (11182)

- 10.3.1 Communicate EHS issues to stakeholders and provide support (11192)

### 10.4 Monitor and manage health, safety, and environmental management program (11183)

- 10.4.1 Manage EHS costs and benefits (11193)
- 10.4.2 Measure and report EHS performance (11194)
  - 10.4.2.1 Implement emergency response program (11196)
  - 10.4.2.2 Implement pollution prevention program (11197)
- 10.4.3 Provide employees with EHS support (11195)

### 10.5 Ensure compliance with regulations (11184)

- 10.5.1 Monitor compliance (11198)
- 10.5.2 Perform compliance audit (11199)
- 10.5.3 Comply with regulatory stakeholders requirements (11200)

### 10.6 Manage remediation efforts (11185)

- 10.6.1 Create remediation plans (11201)
- 10.6.2 Contact and confer with experts (11202)
- 10.6.3 Identify/dedicate resources (11203)
- 10.6.4 Investigate legal aspects (11204)
- 10.6.5 Investigate damage cause (11205)
- 10.6.6 Amend or create policy (11206)

## 11.0 Manage External Relationships (10012)

### 11.1 Build investor relationships (11010)

- 11.1.1 Plan, build, and manage lender relations (11035)
- 11.1.2 Plan, build, and manage analyst relations (11036)
- 11.1.3 Communicate with shareholders (11037)

### 11.2 Manage government and industry relationships (11011)

- 11.2.1 Manage government relations (11038)
  - 11.2.1.1 Assess relationships (12869)
  - 11.2.1.2 Appoint responsible executives (12870)
  - 11.2.1.3 Monitor relationships (12871)
  - 11.2.1.4 Receive input from internal advisors (12872)
  - 11.2.1.5 Receive input from external advisors (12873)
  - 11.2.1.6 Liaise with authorities (12874)

#### 11.2.2 Manage relations with quasi-government bodies (11039)

- 11.2.2.1 Establish relationships with agencies (12875)
- 11.2.2.2 Respond to audit inquiries (12876)
- 11.2.2.3 Maintain documentation of contacts (12877)
- 11.2.2.4 Plan and manage meetings (12878)

#### 11.2.3 Manage relations with trade or industry groups (11040)

- 11.2.3.1 Evaluate the requirements for strategic relationships (12879)
- 11.2.3.2 Monitor the success of the partnerships (12880)
- 11.2.3.3 Extend or change the relationships (12881)

#### 11.2.4 Manage lobby activities (11041)

### 11.3 Manage relations with board of directors (11012)

- 11.3.1 Report results (11042)
- 11.3.2 Report audit findings (11043)

### 11.4 Manage legal and ethical issues (11013)

- 11.4.1 Create ethics policies (11044)
- 11.4.2 Manage corporate governance policies (11045)

#### 11.4.3 Develop and perform preventative law programs (11046)

#### 11.4.4 Ensure compliance (11047)

- 11.4.4.1 Plan and initiate compliance program (11053)
- 11.4.4.2 Execute compliance program (11054)

#### 11.4.5 Manage outside counsel (11048)

- 11.4.5.1 Assess problem and determine work requirements (11056)
- 11.4.5.2 Engage/retain outside counsel if necessary (11057)
- 11.4.5.3 Receive strategy/budget (11058)
- 11.4.5.4 Receive work product and manage/ monitor case and work performed (11059)
- 11.4.5.5 Process payment for legal services (11060)
- 11.4.5.6 Track legal activity/performance (11061)

#### 11.4.6 Protect intellectual property (11049)

- 11.4.6.1 Manage copyrights and patents (11062)
- 11.4.6.2 Maintain intellectual property rights and restrictions (11063)
- 11.4.6.3 Administer licensing terms (11064)
- 11.4.6.4 Administer options (11065)

#### 11.4.7 Resolve disputes and litigations (11050)

#### 11.4.8 Provide legal advice/counseling (11051)

#### 11.4.9 Negotiate and document agreements/contracts (11052)

### 11.5 Manage public relations program (11014)

- 11.5.1 Manage community relations (11066)
- 11.5.2 Manage media relations (11067)
- 11.5.3 Promote political stability (11068)
- 11.5.4 Create press releases (11069)
- 11.5.5 Issue press releases (11070)

## 12.0 Manage Knowledge, Improvement, and Change (10013)

### 12.1 Create and manage organizational performance strategy (11071)

- 12.1.1 Create enterprise measurement systems model (11075)
  - 12.1.1.1 Establish performance measures (11080)
  - 12.1.1.2 Establish performance monitoring frequency (11081)
  - 12.1.1.3 Set performance targets (11082)
- 12.1.2 Measure process productivity (11076)
- 12.1.3 Measure cost effectiveness (11077)
- 12.1.4 Measure staff efficiency (11078)
- 12.1.5 Measure cycle time (11079)

### 12.2 Benchmark performance (11072)

- 12.2.1 Conduct performance assessments (11083)
- 12.2.2 Develop benchmarking capabilities (11084)
- 12.2.3 Conduct process benchmarking (11085)
  - 12.2.3.1 Compile & update list of processes & organizations to benchmark (11089)
  - 12.2.3.2 Establish benchmarks (11090)
  - 12.2.3.3 Measure performance against benchmarks (11091)
- 12.2.4 Conduct competitive benchmarking (11086)
  - 12.2.4.1 Compile & update list of processes & organizations to benchmark (11092)
  - 12.2.4.2 Establish benchmarks (11093)
  - 12.2.4.3 Measure performance against benchmarks (11094)
- 12.2.5 Conduct gap analysis to understand the need for and the degree of change needed (11087)
- 12.2.6 Establish need for change (11088)

### 12.3 Develop enterprise-wide knowledge management (KM) capability (11073)

- 12.3.1 Develop KM strategy (11095)
  - 12.3.1.1 Develop governance model (11100)
  - 12.3.1.2 Establish a central KM core group (11101)
  - 12.3.1.3 Define roles and accountability of the core group versus operating units (11102)
  - 12.3.1.4 Develop funding models (11103)
  - 12.3.1.5 Identify links to key initiatives (11104)
  - 12.3.1.6 Develop core KM methodologies (11105)
  - 12.3.1.7 Assess IT needs and engage IT function (11106)
  - 12.3.1.8 Develop training and communication plans (11107)
  - 12.3.1.9 Develop change management approaches (11108)
  - 12.3.1.10 Develop strategic measures and indicators (11109)
- 12.3.2 Assess knowledge management capabilities (11096)
  - 12.3.2.1 Assess maturity of existing KM initiatives (11110)

- 12.3.2.2 Evaluate existing knowledge management approaches (11111)
- 12.3.2.3 Identify gaps and needs (11112)
- 12.3.2.4 Enhance/modify existing knowledge management approaches (11113)
- 12.3.2.5 Develop new knowledge management approaches (11114)
- 12.3.2.6 Implement new knowledge management approaches (11115)

### 12.3.3 Identify and plan KM projects (11097)

- 12.3.3.1 Identify strategic opportunities to apply KM approach(es) (11116)
- 12.3.3.2 Identify KM requirements and objectives (11117)
- 12.3.3.3 Assess culture and readiness for KM approach (11118)
- 12.3.3.4 Identify appropriate KM methodologies (e.g., self-service, communities, transfer, etc.) (11119)
- 12.3.3.5 Create business case and obtain funding (11120)
- 12.3.3.6 Develop project measures and indicators (11121)

### 12.3.4 Design and launch KM projects (11098)

- 12.3.4.1 Design process for knowledge sharing, capture, and use (11122)
- 12.3.4.2 Define roles and resources (11123)
- 12.3.4.3 Identify specific IT requirements (11124)
- 12.3.4.4 Create training and communication plans (11125)
- 12.3.4.5 Develop change management plans (11126)
- 12.3.4.6 Design recognition and reward approaches (11127)
- 12.3.4.7 Design and plan launch of KM project (11128)
- 12.3.4.8 Deploy the KM project (11129)

### 12.3.5 Manage the KM project life cycle (11099)

- 12.3.5.1 Assess alignment with business goals (11130)
- 12.3.5.2 Evaluate impact of KM (strategy and projects) on measures and outcomes (11131)
- 12.3.5.3 Promote and sustain activity and involvement (11132)
- 12.3.5.4 Realign and refresh KM strategy and approaches (11133)

### 12.4 Manage change (11074)

#### 12.4.1 Plan for change (11134)

- 12.4.1.1 Select process improvement methodology (11138)
- 12.4.1.2 Assess readiness for change (11139)
- 12.4.1.3 Determine stakeholders (11140)
- 12.4.1.4 Engage/Identify champion (11141)
- 12.4.1.5 Form design team (11142)
- 12.4.1.6 Define scope (11143)
- 12.4.1.7 Understand current state (11144)
- 12.4.1.8 Define future state (11145)

- 12.4.1.9 Conduct risk analysis (11146)
- 12.4.1.10 Assess cultural issues (11147)

- 12.4.1.11 Establish accountability for change management (11148)
- 12.4.1.12 Identify barriers to change (11149)
- 12.4.1.13 Determine change enablers (11150)
- 12.4.1.14 Identify resources and develop measures (11151)

#### **12.4.2 Design the change (11135)**

- 12.4.2.1 Assess connection to other initiatives (11152)
- 12.4.2.2 Develop change management plans (11153)
- 12.4.2.3 Develop training plan (11154)
- 12.4.2.4 Develop communication plan (11155)
- 12.4.2.5 Develop rewards/incentives plan (11156)
- 12.4.2.6 Establish metrics (11157)

- 12.4.2.7 Establish/Clarify new roles (11158)
- 12.4.2.8 Identify budget/roles (11159)

#### **12.4.3 Implement change (11136)**

- 12.4.3.1 Create commitment for improvement/change (11160)
- 12.4.3.2 Reengineer business processes and systems (11161)
- 12.4.3.3 Support transition to new roles or exit strategies for incumbents (11162)
- 12.4.3.4 Monitor change (11163)

#### **12.4.4 Sustain improvement (11137)**

- 12.4.4.1 Monitor improved process performance (11164)
- 12.4.4.2 Capture and reuse lessons learned from change process (11165)
- 12.4.4.3 Take corrective action as necessary (11166)





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