



Supply Chain: Manufacturing Survey

OSBC DATABASE PRIVACY AND PROTECTION OF PERSONAL INFORMATION

Please refer to APQC's [privacy statement](#) for disclosures relating to the collection and use of your personal information.

Instructions

Research project structure

APQC OSBC research projects are designed to collect a wide variety of information about your entire organization, with a specific emphasis on the particular business entity for which the research is being collected.

Each survey is divided into a number of sections, separated by a block of introductory text. The first section contains questions about your organization as a whole. The second section contains general questions about your particular business entity. Each of the subsequent sections of the research project presents questions about specific processes and activities in your business entity. Each of these process-specific sections corresponds to APQC's [Process Classification Framework](#).

Before each section containing process-specific questions, you are presented with a list of components of the PCF. This list identifies which components of the PCF are addressed by this particular section of the research project. The numbers in the list correspond to the PCF's unique numbering scheme. Questions within the section will address specific activities for the stated component of the PCF.

Navigation, saving results, and submitting a survey

The survey is presented in pages. Each page has at least one question on it. Each question on each page should be answered. A survey may also have a question that must be answered in order to proceed. Required questions are identified by the word "Required" in red letters.

Use the buttons at the bottom of each page to navigate throughout the survey. To avoid data loss, do not use the browser "Back" and "Forward" buttons to navigate through the survey. As you navigate through the survey using the "Back" and "Forward" buttons, your data are saved to APQC's secure servers.

The progress indicator at the bottom of each page displays a bar graph and a percentage that indicate your progress in navigating through the survey. The progress indicator does not account for completed questions, only for your relative position in the survey.

To exit the survey before you have completed all questions, click the 'Save' button at the bottom of the survey page, then close your browser. The system will present you a link to your particular instance of the survey. Use that link to return to the survey at any time.

Once you have completed the survey, click the 'Submit' button on the last survey page. By submitting your survey results, you will notify APQC that your data are ready for validation. You will not be able to create, review, update or delete your answers after you have submitted the survey, so ensure that you have accurately documented your answers before you submit it.

Cookies, one browser

The APQC OSBC survey tool uses a "cookie" to associate you to a particular survey instance. Your cookie is unique to the computer you used to start the survey, and is the only key that you have to access your data. Should you lose your cookie, you will be unable to complete the survey and will need special assistance from APQC. Do not delete your APQC cookies until after you have submitted your survey data.

Because this cookie is unique to the computer you used to start the survey, other users will be unable to contribute results and data to the survey unless they have physical access to the browser you used to start the survey.

Visit the [Browser Setup](#) page for more information about configuring your browser to use cookies.

JavaScript

The APQC survey application uses JavaScript for enhanced validation and usability features. In order to complete these surveys, you must use a browser that supports JavaScript, and you must have JavaScript enabled. Visit the [Browser Setup](#) page for more information.

Printing

To print a copy of the entire survey, you should use the 'Preview' version of the survey. This view consolidates all of the questions associated with the particular survey onto a single printable browser page. No answers or personal data are contained on the 'Preview' version of the survey.

As you navigate through the survey, you may print each page to record your answers. There is no facility to review all of your answers on one page.

Definitions

Each survey has a set of definitions associated with it that are unique to the process grouping covered by the survey. Throughout the survey, questions may have links to survey definitions.

Accurate results depend on a common understanding of the terminology used across survey respondents, so take special care to review the definitions in the glossary thoroughly. Common terms may be defined differently than you expect. When in doubt, contact APQC for guidance.

Reasonable numbers

The survey asks for a number of detailed pieces of information. If you do not have the exact information that a question asks for, please provide a reasonable approximation. If you cannot provide a reasonable approximation, please leave the answer blank. If you are not sure, contact APQC for guidance.

Reporting period

All questions in the survey, unless expressed otherwise, request data from the last complete fiscal year of your organization's or business entity's operations. Please be sure to provide the end-date of the fiscal year for which you are providing data. If you have any questions about the reporting period, please contact the OSBC help desk (contact information is provided below.)

Question numbers may skip

Occasional changes to the survey may result in the addition or removal of questions. Due to this activity, the question numbers in the survey may occasionally skip one or more numbers. Furthermore, some surveys will hide questions depending upon answers to previous questions. If you have any questions about the order of questions in the survey, please contact the OSBC help desk.

Contacting APQC with questions

For any questions regarding the survey mechanics, the survey content, or general survey inquiries, please contact the OSBC helpdesk via telephone at +1.800.776.9676 (toll free, US only) or +1.713.681.4020, or via email at osbc@apqc.org.

Survey Scope

This survey is designed to be modular in nature. The following processes are addressed by this survey:

- General background questions
- [Schedule production](#)
- [Produce product](#)
- [Schedule and perform maintenance](#)

The survey contains a general background section followed by a number of process specific sections. The process specific sections contain questions addressing the PCF components identified above.

General Background Questions

Please provide your value responses with no currency marks, thousands separator, or other formatting. Also, a period should be used for a decimal mark, not a comma (e.g., 1325.23, not \$1,325.23).

*189.0010 Please indicate the currency (e.g., US Dollar, Euro, Japanese Yen, etc.) used for monetary responses provided in this survey.
This question must be answered in order to proceed to the next page.

Choose one

189.0020 What is the [total annual revenue](#) of your entire organization? (Note that this question refers to the entire organization rather than the business entity defined for purposes of this survey effort. For example, the surveyed business entity could be a business unit of a publicly traded company, in which case this question should be answered as the corporate parent's total annual revenue.)

Total annual revenue

The remainder of this survey will refer to the surveyed entity as the "business entity." You may be responding for a subset of the entire organization with which you are most familiar (such as a geographical unit) rather than the entire organization. If so, please ensure that all data provided is consistent with this business entity definition; for example, if the business entity is a combination of business units within the organization, then the revenue, cost, and FTE figures provided should be an allocation from those business units rather than the entire organization.

189.0030 Provide the end date of the twelve-month period for which your [business entity](#) will be providing data. (All questions in the survey, unless expressed otherwise, request data from the last complete fiscal year of your organization's or business entity's operations. Pro-rata data are not acceptable, only actual data should be submitted. Please be sure to provide the end-date of the fiscal year for which you are providing data. If you have any questions about the reporting period, please contact the OSBC help desk on osbc@apqc.org.)

Period end date

Year	Month
Choose one	Choose one

Please provide the following financial information about your business entity.

Financial Information	Value
189.0040 Total annual revenue	
189.0050 Total annual cost of continuing operations	
189.0060 Total annual cost of goods sold(COGS)	

189.0070 Of your total annual cost of goods sold (COGS) what percentage is...(The total should equal 100%. Appropriate values are in the range of 0 to 100.)

Category	Percentage Allocation
a. Labor	%
b. Overhead	%
c. Materials	%
d. Total cost of goods sold allocation (should equal 100%)	%

What are the total number of employees and FTEs at your business entity?

Please provide your response in numeric form with no symbols, thousands separator, or other formatting. Also, a period should be used for a decimal mark, not a comma (e.g., for 3479.2, enter **3479.2** not 3,479.2 or 3.479,2).

Category	Value
189.0080 Total employees (temporary , part-time , and full-time)	
189.0090 Total FTEs	

189.0100 In how many countries, including your own, does your business entity operate?

Number of countries

189.0110 What is your assessment of your business entity's overall performance relative to industry peers?

- Top quartile
- Middle half
- Bottom quartile

189.0120 Which of the following best describes your organization's maturity with regards to information availability and analysis capabilities? (Options are listed in increasing order of maturity; select the option that best describes your organization's maturity.)

We don't have regular access to data beyond basic transactions. Data is stored in spreadsheets or system extracts. Analysis is not

performed on a regular basis and decisions are based on instinct or anecdote.

Data is in department or line-of-business silos. Insight generation is only performed on an ad hoc or periodic basis. Decisions may be supported by data, but are primarily based on past experience.

Structured operational data is available and may include some basic external data. Insights are generated at department or line-of-business level. Decision making is focused on analyzing past actions and consequences.

Traditional and unstructured data is integrated and available from enterprise sources as well as some external data. While data is available to many people based on their roles and needs, using it might require some technical assistance. Decision making involves historic analysis and predictive algorithms.

Real-time, internal and external data is readily accessible across the enterprise based on need. Information is shared extensively across the enterprise. The data is integrated real-time and users can access, manipulate and visualize data on demand. Data-driven decision making is part of the organization's culture.

189.0130 Which of the following best describes the maturity with regards to information availability and analysis capabilities, that you think your organization SHOULD have in order to be competitive / on par with peers? (Options are listed in increasing order of maturity. This question is intended as a subjective measure of the level of analytics maturity required to compete within the industry.)

We don't have regular access to data beyond basic transactions. Data is stored in spreadsheets or system extracts. Analysis is not performed on a regular basis and decisions are based on instinct or anecdote.

Data is in department or line-of-business silos. Insight generation is only performed on an ad hoc or periodic basis. Decisions may be supported by data, but are primarily based on past experience.

Structured operational data is available and may include some basic external data. Insights are generated at department or line-of-business level. Decision making is focused on analyzing past actions and consequences.

Traditional and unstructured data is integrated and available from enterprise sources as well as some external data. While data is available to many people based on their roles and needs, using it might require some technical assistance. Decision making involves historic analysis and predictive algorithms.

Real-time, internal and external data is readily accessible across the enterprise based on need. Information is shared extensively across the enterprise. The data is integrated real-time and users can access, manipulate and visualize data on demand. Data-driven decision making is part of the organization's culture.

189.0140 Does your organization use an [enterprise resource planning \(ERP\) system](#) to coordinate key business information, resources, and activities across the value chain?

Yes

No

Manufacturing Profile

*189.0150 Which of the following best describes your business entity's primary capability model? (Select only one.) (This question must be answered in order to proceed. This question is required.)

[Build-to-Stock](#)

[Build-to-Order](#)

[Engineer-to-Order](#)

[Retail](#)

189.0160 Which of the following best describes your business entity's primary products? (Select only one.)

[Discrete](#) (typically measured by numeric quantities)

[Process](#) (typically measured by weight or volume)

Both or hybrid

189.0170 Which of the following best describes your business entity's manufacturing operations for primary products? (Select only one.)

[Continuous flow](#)

[Batch](#)

Both or hybrid

189.0180 Which of the following best describes your business entity's primary [product mix](#)? (Select only one.)

High volume/high mix

High volume/low mix

Low volume/high mix

Low volume/low mix

High-level cost and productivity

189.0190 What is your business entity's total [cost of manufacturing](#) ? (Include costs associated with direct materials, direct labor, direct non-material product-related expenses (equipment) and indirect product-related expenses.)

Cost to manufacture

189.0200 What is the currency value of plant shipments per employee for the most recent fiscal year ? (Include all employees, not just direct labor.)

Please provide your response in numeric form with no symbols, thousands separator, or other formatting. Also, a period should be used for a decimal mark, not a comma (e.g., for 3479.2, enter **3479.2** not 3,479.2 or 3.479,2).

Plant shipments per employee

189.0210 What is your business entity's return on invested capital (net operating profit after taxes, divided by capital invested)?

Return on invested capital

%

189.0220 What is your business entity's [average return on fixed assets](#)? (Calculate using annual operating income [revenue, less cost of goods sold, less operating expenses excluding interest and taxes] divided by your business entity's average fixed asset balance [calculated as beginning fixed assets less accumulated depreciation plus ending fixed assets less accumulated depreciation divided by two].)

Average return on fixed assets

%

Cycle times

189.0230 What is your business entity's average [manufacturing time](#) for primary products in hours (start of production to completion of product)?

Please provide your response in numeric form with no symbols, thousands separator, or other formatting. Also, a period should be used for a decimal mark, not a comma (e.g., for 3479.2, enter **3479.2** not 3,479.2 or 3.479,2).

Manufacturing time

189.0240 What is your business entity's engineering change-order cycle time (in days)? (Engineering change-order cycle time begins with a request for change from the customer and ends when the change is implemented in production.)

Change-order cycle time

Manufacturing productivity

189.0250 For primary products, what is your business entity's average production schedule attainment for a planning period? (Compute as [(volumes produced) / (volumes scheduled)]*100. Appropriate values are in the range of 0 to 100.)

Average production schedule attainment

%

189.0260 What is your business entity's average [unplanned machine downtime](#) as a percentage of scheduled runtime? (Exclude scheduled maintenance, set-up, and changeover time. Appropriate values are in the range of 0 to 100.)

Unplanned machine downtime

%

189.0270 For primary products, what is your business entity's actual [production rate](#) as a percentage of [maximum capable rate](#)? (Appropriate values are in the range of 0 to 100.)

Production rate

%

Manufacturing Quality

189.0280 What is your business entity's [finished-product first-pass quality yield](#) for primary products? (Appropriate values are in the range of 0 to 100.)

Finished-product first-pass quality yield

%

189.0290 What is your business entity's [scrap and rework](#) costs as a percentage of sales? (Appropriate values are in the range of 0 to 100.)

Percentage of scrap and rework costs

%

189.0300 What is your business entity's warranty cost (repair and replacement) as a percentage of sales? (Appropriate values are in the range of 0 to 100.)

Percentage of warranty cost

%

Customer metrics

189.0310 For primary products, what is the average customer order cycle time in days (including weekends)? (The customer order cycle begins when the customer places an order and ends when the product/service has been delivered to the customer.)

Customer order cycle time in days

Please provide the following customer order metrics.

Metrics	Percentage
189.0320 Perfect order performance (delivered on time, with all line items filled correctly/completely/damage free, and with an accurate invoice)	%
189.0330 On-time delivery rate	%

Inventory

Please provide your annual inventory turns.

(Please provide your response in numeric form with no symbols, thousands separator, or other formatting. Also, a period should be used for a decimal mark, not a comma (e.g., for 3479.2, enter **3479.2** not 3,479.2 or 3.479,2).)

Inventory Types	Inventory Turn Rate
189.0340 Raw material inventory turns	

189.0350 WIP inventory turns	
189.0360 Finished-goods inventory turns	

Please provide the following metrics. (Appropriate values are in the range of 0 to 100)

Metrics	Percentage
189.0370 Inventory obsolescence, as a percentage of total inventory value	%
189.0380 Material handling damage, as a percentage of total material cost (Production material handling damage is defined as the cost of material damaged from handling and storage.)	%

189.0390 What is the total annual value of your business entity's shrinkage? (Shrinkage is defined as the costs associated with breakage, pilferage, and deterioration of inventories.)

Total annual value of shrinkage

Workforce

189.0400 What was your business entity's annual personnel turnover rate, as a percentage of total work force, for the most recent fiscal year? (Appropriate values are in the range of 0 to 100.)

Personnel turnover rate

%

189.0410 To what extent are plant production workers at your business entity represented by one or more unions? (Select only one.)

- No workers
- Some workers
- All workers

189.0420 What percentage of your business entity's production workforce currently participates in empowered or self-directed teams? (Select only one.)

- 0%
- 1% - 25%
- 26% - 50%
- 51% - 75%
- 76% - 99%
- 100%

189.0430 What is the average length of [formal training](#) in hours received by each business entity employee? (Select only one.)

- Less than 8 hours
- 8 to 20 hours
- 21 to 40 hours
- More than 40 hours

Manufacturing Processes and Initiatives

189.0440 To what extent has your business entity implemented each of the following quality techniques? (Select one for each technique.)

	No Implementation	Some Implementation	Extensive Implementation
a. Six Sigma			
b. Total Quality Management			

c. Formal continuous-improvement program			
d. Error proofing (e.g., pokayoke)			
e. Statistical Process Control (SPC)			

189.0450 To what extent has your business entity adopted each of the following manufacturing practices or initiatives? (Select only one for each practice.)

	Not Adopted	Some Adoption	Wide Adoption
a. Quick-changeover techniques			
b. Focused-factory production systems			
c. JIT/continuous-flow production			
d. Cellular manufacturing			
e. Lot-size reductions			
f. Predictive or preventive maintenance			
g. Pull system/Kanban			
h. Engineering and production staff collaborate in new product design			
i. Operator-based maintenance			
j. Flexible, cross-functional work force			
k. Self-directed or empowered work teams			

189.0460 For each of the following manufacturing practices that your business entity has adopted (question 189.0450), how effective has the adopted practice been in reaching desired goals? (Select only one for each function. If the manufacturing practice function has not been adopted, then leave blank.)

	Not Effective	Somewhat Effective	Extremely Effective
a. Quick-changeover techniques			
b. Focused-factory production systems			
c. JIT/continuous-flow production			
d. Cellular manufacturing			
e. Lot-size reductions			
f. Predictive or preventive maintenance			
g. Pull system/Kanban			
h. Engineering and production staff collaborate in new product design			
i. Operator-based maintenance			
j. Flexible, cross-functional work force			
k. Self-directed or empowered work teams			

You have reached the end of the survey. You can use the **Previous** button to review your answers for accuracy and reasonableness. After pressing the **Submit** button, you will no longer be able to directly edit your data in this survey form.

In order to obtain a printed version of your completed survey, you will need to print each page **before** submitting your responses. After you select "submit", you will be unable to print your completed survey.

Please direct all survey-related questions to the OSBC Helpdesk at (800) 776-9676 or e-mail osbc@apqc.org.



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