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## C. SECTOR SPECIFIC TECHNOLOGIES

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**READ THE FOLLOWING TO THE RESPONDENT BEFORE PROCEEDING:**

**Now, we turn to questions about methods and procedures to perform sector specific business functions**

ADD SECTOR SPECIFIC QUESTIONNAIRE – SEPARATED DOCUMENT

INTERVIEWER: ASK THESE QUESTIONS ONLY FOR FIRMS THAT BELONG

TO THE SECTORS FOR WHICH SECTOR SPECIFIC QUESTIONS ARE AVAILABLE.

IF THE FIRM DO NOT BELONG TO THOSE, SKIP THIS SECTION AND GO TO SECTION D.

Agriculture (except Livestock)	C1
Livestock	C2
Food Processing	C3
Wearing apparel	C4
Pharmaceuticals	C5
Motor vehicles	C6
Wholesale or retail	C7
Financial services	C8
Land transport	C9
Health services	C10

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## C. SECTOR SPECIFIC TECHNOLOGIES

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### 1. Agriculture – Crops (Agriculture)

#### C1.0 Information on production planning and propriety characteristics

Question: Over the year [2018], which of these sources of information was relevant to this establishment decisions for <b>pre-cultivation, cultivation, and harvesting</b> decisions?	Variable	Answer
Radio (e.g. agrometeorological information, agriculture programming, advertisements)	<b>c1_0a1</b>	1 = Yes 2 = No -9 = Don't know
TV (e.g. agrometeorological information, agriculture programming, advertisements)	<b>c1_0a2</b>	1 = Yes 2 = No -9 = Don't know
Non-internet mobile phone (e.g. SMS, Voice Calling)	<b>c1_0a3</b>	1 = Yes 2 = No -9 = Don't know
Mobile internet technologies (e.g. YouTube, WhatsApp, Facebook, Skype, Email, and other web applications)	<b>c1_0a4</b>	1 = Yes 2 = No -9 = Don't know
Meetings with other producers, producer organizations, or cooperative	<b>c1_0a5</b>	1 = Yes 2 = No -9 = Don't know
Demonstration or visit by public- or private-extension agents (e.g. NGOs, Agribusiness Buyers etc.)	<b>c1_0a6</b>	1 = Yes 2 = No -9 = Don't know
Precision agriculture tools (e.g. Farm management software, soil sensors, satellite imaging, real time data, drones, apps)	<b>c1_0a7</b>	1 = Yes 2 = No -9 = Don't know

Question	Variable	Answer
What was the <b>most relevant</b> source of information to support your decisions regarding pre-cultivation, cultivation, and harvesting during the last agricultural season?	<b>c1_0b1</b>	1= Radio 2 = TV 3 = Mobile phone (Non-Internet) 4 = Internet 5 = Cooperative 6 = Extension agents 7 = Farm management software 8 = Other

INTERVIEWER: Please include ALL LAND REGARDLESS OF LOCATION OR USE.

Question: What is the total amount of land owned, rented, or used by this establishment?	Variable	Answer
Total number of acres OWNED	<b>c1_0c1</b>	Number
Total number of acres RENTED or LEASED FROM OTHERS	<b>c1_0c2</b>	Number
Number of acres RENTED or LEASED TO OTHERS	<b>c1_0c3</b>	Number
Total number of acres available for this establishment (CAPI: CALCULATE THE NUMBER)	<b>c1_0c4 = (c1_0c1+ c1_0c2- c1_0c3)</b>	Number

Question	Variable	Answer
How many tractors are owned by this establishment?	<b>c1_0c5</b>	(number of tractors)
Does this establishment use rent tractor, equipment, or machines?	<b>c1_0c6</b>	1 = Yes 2 = No -7 = Not applicable
Does this establishment use any digital or online platform for renting a tractor, equipment, or machine (e.g. Uber tractor)? [CONDITION: ask this question only if <b>c1_0c6=1</b> ]	<b>c1_0c7</b>	1 = Yes 2 = No -9 = Don't know

Question	Variable	Answer
What is the main source of seeds used by this establishment?	<b>c1_0d1</b>	1 = Own production 2 = Private providers 3 = Public programs 4 = Other
Does the seed receive any pre-treatment?	<b>c1_0d2</b>	1 = Yes 2 = No -9 = Don't know

### C1.1 Land preparation

Question	Variable	Answer
Does this establishment conduct land preparation through its own workers? [SKIP: If <b>c1_1a1=1</b> go to question <b>c1_1b1</b> ]	<b>c1_1a1</b>	1 = Yes 2 = No
Is this task outsourced to workers from another unit of the same enterprise? [CONDITION: Only for multi-establishment farm ( <b>s4=1</b> )] [SKIP: If <b>c1_1a2=1</b> go to question <b>c1_1b1</b> ]	<b>c1_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to other workers or enterprise? [SKIP: Go to question <b>c1_2a1</b> ]	<b>c1_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for land preparation method is used in this farm?	Variable	Answer	
Manual plowing with simple tools (hand-held hoes, split-hoes, rake)	<b>c1_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Animal Aided Instruments (ploughs)	<b>c1_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Tractors, motor tillers, rotators, or other equipment manually operated by workers	<b>c1_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Tractors or other equipment supported by digital enabled technologies (e.g. GPS, software, or precision agriculture tools)	<b>c1_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_1b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the land preparation method used more often in this farm? [CONDITION: Ask only if the answer is YES for more than one option among <b>c1_1b</b> variables]	Variable <b>c1_1c</b>	Answer 1 = Manual plowing with simple tools 2 = Animal Aided Instruments (ploughs) 3 = Tractors, motor tillers, rotovators, equipment manually operated by workers 4 = Tractors or equipment supported by digital enabled technologies such as GPS or software 5 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using digital enabled tractors, equipment, or precision agriculture tools for land preparation? [CONDITION: ask only if <b>c1_1b4=1</b> ]	<b>c1_1d</b>	(Number of years)

## C1.2 Irrigation

Question	Variable	Answer
Does this establishment's production require any irrigation? [SKIP: If <b>c1_2a1=1</b> go to question <b>c1_2b1</b> ]	<b>c1_2a1</b>	1 = Yes 2 = No -7 = Not applicable

Question: Does this establishment use any of the following methods for irrigation?	Variable	Answer	
Rain-fed, no additional irrigation	<b>c1_2b1</b>	1 = Yes 2 = No	-9 = Don't know

Manual irrigation with watering cans	<b>c1_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Surface Flood Irrigation by Gravity	<b>c1_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Irrigation by Small Pump	<b>c1_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Drip irrigation, localized irrigation, underground pipes, Sprinkler or Center Pivot.	<b>c1_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Automated system controlled by sensors, software, Internet, or apps	<b>c1_2b6</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_2b7</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the irrigation system used more often in this farm?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c1_2b</b> variables]</p>	<p>Variable <b>c1_2c</b></p>	<p>Answer</p> <p>1 = Rain-fed, no additional irrigation 2 = Manual irrigation with watering cans 3 = Surface Flood Irrigation by Gravity 4 = Irrigation by Small Pump 5 = Drip irrigation, localized irrigation, underground pipes, Sprinkler or Center Pivot. 6 = Automated system controlled by sensors, software, Internet, or apps 7 = Other -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using drip irrigation, localized irrigation, underground pipes, sprinkler, center pivot or precision agriculture tools for irrigation?</p> <p>[CONDITION: ask this question only if <b>c1_2b5=1</b> or <b>c1_2b6=1</b>]</p>	<b>c1_2d</b>	(Number of years)

### C1.3 Weeding and pest control

Question	Variable	Answer
<p>Does this farm conduct weeding and pest control?</p> <p>[SKIP: If <b>c1_3a1=1</b> go to question <b>c1_3b1</b>]</p>	<b>c1_3a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same enterprise?</p> <p>[CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]</p> <p>[SKIP: If <b>c1_3a2=1</b> go to question <b>c1_3b1</b>]</p>	<b>c1_3a2</b>	1 = Yes 2 = No -9 = Don't know
<p>Is this task outsourced to another enterprise?</p> <p>[SKIP: Go to question <b>c1_4a1</b>]</p>	<b>c1_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for weeding and pest control?	Variable	Answer	
Manual application of herbicide, fertilizer, or pesticide	<b>c1_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Mechanical application of herbicide, fertilizer, or pesticide	<b>c1_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Biological methods of fertilizing, weed, or pest control	<b>c1_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Fully-automated Variable Rate Application (VRA) tools in combination with soil and plant sensors (Precision Agriculture)	<b>c1_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Drone Application in combination with remote sensing or on-site sensors (Advanced Precision Agriculture)	<b>c1_3b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_3b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the weeding and pest control method used more often in this propriety? [CONDITION: Ask only if the answer is YES for more than one option among <b>c1_3b</b> variables]	Variable <b>c1_3c</b>	Answer
		1 = Manual application of organic herbicide, fertilizer, or pesticide 2 = Manual application of chemical herbicide, fertilizer, or pesticide 3 = Mechanical application of organic herbicide, fertilizer, or pesticide 4 = Mechanical application of chemical herbicide, fertilizer, or pesticide 5 = Biological methods of fertilizing, weed, and pest control 6 = Fully-automated Variable Rate Application (VRA) tools in combination with soil and plant sensors (Precision Agriculture) 7 = Drone Application in combination with remote sensing or on-site sensors (Advanced Precision Agriculture) 8 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using VRA or drone application for weeding and pest control? [CONDITION: ask this question only if <b>c1_3b6=1</b> or <b>c1_3b7=1</b> ]	<b>c1_3d</b>	(Number of years)

Question	Variable	Answer	
Does this establishment use organic or chemical herbicide, fertilizer, or pesticide for weeding and pest control? [CONDITION: ASK ONLY IF <b>c1_3b1=1</b> or <b>c1_3b1=2</b> ]	<b>c1_3d</b>	1 = Organic 2 = Chemical 3 = Both	-9 = Don't know

### C1.4 Harvesting, training, pruning

Question	Variable	Answer
Does this establishment conduct harvesting, training or pruning? [SKIP: If <b>c1_4a1=1</b> go to question <b>c1_4b1</b> ]	<b>c1_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same enterprise? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> ) [SKIP: If <b>c1_4a2=1</b> go to question <b>c1_4b1</b> ]	<b>c1_4a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another enterprise? [SKIP: Go to question <b>c1_5a1</b> ]	<b>c1_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for harvesting, training, or pruning?	Variable	Answer	
Manual harvesting, training, pruning, or picking	<b>c1_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Animal Aided Instruments	<b>c1_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Human-operated machines or single-axle tractor, with one specific function	<b>c1_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Mechanized process with machines or tractors that combine multiple functions fully operated by the worker (without support of digital technologies)	<b>c1_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Automated process with machines or tractors that combine multiple functions supported by digital enabled technologies (e.g. GPS or computing systems integrated to tractor)	<b>c1_4b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_4b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the harvesting/training/pruning method used more often in this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c1_4b</b> variables]	Variable	Answer
	<b>c1_4c</b>	1 = Manual harvesting, training, pruning, or picking 2 = Animal Aided Instruments 3 = Human-operated machines or single -axle tractor, with one specific function 4 = Mechanized process with machines or tractors that combine multiple functions (e.g. Combine harvester)

		<p>fully operated by the worker (without support of digital technologies)</p> <p>5 = Automated process with machines or tractors that combine multiple functions supported by digital enabled technologies (e.g. GPS or computing systems integrated to tractor)</p> <p>6 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using <b>mechanized or automated processes</b> for harvesting/training/pruning?</p> <p>[CONDITION: ask this question only if <b>c1_4b4=1 or c1_4b5=1</b>]</p>	<b>c1_4d</b>	(Number of years)

### C1.5 Storage (Post-Harvesting)

Question	Variable	Answer
<p>Does this farm storage its products in house?</p> <p>[SKIP: If <b>c1_5a1=1</b> go to question <b>c1_5b1</b>]</p>	<b>c1_5a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same firm?</p> <p>[CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]</p> <p>[SKIP: If <b>c1_5a2=1</b> go to question <b>c1_5b1</b>]</p>	<b>c1_5a2</b>	1 = Yes 2 = No -9 = Don't know
<p>Is this task outsourced to another firm?</p> <p>[SKIP: Go to question <b>c1_6a1</b>]</p>	<b>c1_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following types of storage facility?	Variable	Answer	
Precarious facility with product totally or partially exposed to sun, rain and wind	<b>c1_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Storage facilities protecting from sun, rain, or wind, but without controlled temperature	<b>c1_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Special Storage facilities with cold or dry controlled environment	<b>c1_5b3</b>	1 = Yes 2 = No	-9 = Don't know
High-end central storage facilities, with controlled atmosphere and temperature	<b>c1_5b4</b>	1 = Yes 2 = No	-9 = Don't know
Continuous temperature monitoring device or digital data loggers	<b>c1_5b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_5b6</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the storage facility used more often in this farm?  [CONDITION: Ask only if the answer is YES for more than one option among <b>c1_5b</b> variables]</p>	<p>Variable  <b>c1_5c</b></p>	<p>Answer  1 = Precarious facility with product totally or partially exposed to sun, rain and wind  2 = Storage facilities protecting from sun, rain, or wind, but without controlled temperature  3 = Special Storage facilities with cold or dry controlled environment  4 = High-end central storage facilities, with controlled atmosphere and temperature  5 = Continuous temperature monitoring device or digital data loggers  6 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using special storage facilities or high-end central storage facilities or continuous temperature monitoring devices for storage?  [CONDITION: ask this question only if <b>c1_5b3=1</b> or <b>c1_5b4=1</b> or <b>c1_5b5=1</b>]</p>	<p><b>c1_5d</b></p>	<p>(Number of years)</p>

### C1.6 Packing (Post-Harvesting)

Question	Variable	Answer
<p>Does this farm pack in house?  [SKIP: If <b>c1_6a1=1</b> go to question <b>c1_6b1</b>]</p>	<p><b>c1_6a1</b></p>	<p>1 = Yes  2 = No</p>
<p>Is this task outsourced to another unit of the same firm?  [CONDITION: Only for multi-establishment firms (<b>s4=1</b>)  [SKIP: If <b>c1_6a2=1</b> go to question <b>c1_6b1</b>]</p>	<p><b>c1_6a2</b></p>	<p>1 = Yes  2 = No  -9 = Don't know</p>
<p>Is this task outsourced to another firm?  [SKIP: Go to question <b>D1</b>]</p>	<p><b>c1_6a3</b></p>	<p>1 = Yes  2 = No  -9 = Don't know  -7 = Not applicable</p>

Question: Does this establishment use any of the following packing methods?	Variable	Answer	
Manual packing in bags, crates, or boxes	<b>c1_6b1</b>	1 = Yes 2 = No	-9 = Don't know
Human-operated mechanical equipment for packing in bags, crates, or boxes	<b>c1_6b2</b>	1 = Yes 2 = No	-9 = Don't know

Automated packing directly linked to the harvesting, training, pruning, or picking process	<b>c1_6b3</b>	1 = Yes 2 = No	-9 = Don't know
Modified atmosphere packing	<b>c1_6b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c1_6b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the packing method used more often in this farm?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c1_6b</b> variables]</p>	<p>Variable</p> <p><b>c1_6c</b></p>	<p>Answer</p> <p>1 = Manual packing in bags, crates, or boxes</p> <p>2 = Human-operated mechanical equipment for packing in bags, crates, or boxes</p> <p>3 = Automated packing directly linked to the harvesting, training, pruning, or picking process</p> <p>4 = Modified atmosphere packing</p> <p>5 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using automated packing or modified atmosphere packing for packing?</p> <p>[CONDITION: ask this question only if <b>c1_6b3=1</b> or <b>c1_6b4=1</b>]</p>	<b>c1_6d</b>	(Number of years)

## 2. Livestock (Agriculture)

### C2.0. Information for production planning

Question: Over the year [2018], which of these sources of information was relevant to this establishment <b>production</b> decisions?	Variable	Answer
Radio (e.g. agriculture programming, advertisements)	<b>c2_0a1</b>	1 = Yes 2 = No -9 = Don't know
TV (e.g. agriculture programming, advertisements)	<b>c2_0a2</b>	1 = Yes 2 = No -9 = Don't know
Non-internet mobile phone (SMS, Voice Calling)	<b>c2_0a3</b>	1 = Yes 2 = No -9 = Don't know
Mobile internet technologies (e.g. YouTube, WhatsApp, Facebook, Skype, Email, and other web applications)	<b>c2_0a4</b>	1 = Yes 2 = No -9 = Don't know
Meetings with other producers, producer organizations, or cooperative	<b>c2_0a5</b>	1 = Yes 2 = No -9 = Don't know
Demonstration or visit by public- or private-extension agents (e.g. NGOs, Agribusiness Buyers etc.)	<b>c2_0a6</b>	1 = Yes 2 = No -9 = Don't know
Precision agriculture tools (Farm management software connected to Internet and other tool related to precision agriculture)	<b>c2_0a7</b>	1 = Yes 2 = No -9 = Don't know

Question	Variable	Answer
What was the <b>most relevant</b> source of information to support the production decisions of this establishment?	<b>c2_0b</b>	1 = Radio 2 = TV 3 = Mobile phone (Non-Internet) 4 = Internet 5 = Other producers 6 = Extension agents 7 = Farm management software 8 = Other

INTERVIEWER: Please include ALL LAND REGARDLESS OF LOCATION OR USE.

Question: What is the total amount of land owned, rented, or used by this establishment?	Variable	Answer
Total number of acres OWNED	<b>c1_0c1</b>	Number
Total number of acres RENTED or LEASED FROM OTHERS	<b>c1_0c2</b>	Number
Number of acres RENTED or LEASED TO OTHERS	<b>c1_0c3</b>	Number
Total acres OPERATES (CAPI: CALCULATE THE NUMBER)	<b>c1_0c4 = (c1_0c1+ c1_0c2- c1_0c3)</b>	Number

Question	Variable	Answer
Does this establishment process the production in house to sell them for final consumers?	<b>c2_0d</b>	1 = Yes 2 = No

### C2.1. Breeding and genetics

Question	Variable	Answer
Does this farm conduct breeding and genetic procedures in house? [SKIP: If <b>c2_1a1=1</b> go to question <b>c2_1b1</b> ]	<b>c2_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If <b>c2_1a2=1</b> go to question <b>c2_1b1</b> ]	<b>c2_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c2_2a1</b> ]	<b>c2_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for breeding or genetic procedures?	Variable	Answer	
Breed substitution	<b>c2_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Inbreeding or Crossbreeding	<b>c2_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Artificial insemination (AI)	<b>c2_1b3</b>	1 = Yes 2 = No	-9 = Don't know

Selective breeding based on molecular genetics (marker-assisted selection, PCR, DNA sequencing, transgenesis, cloning, genomics)	<b>c2_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c2_1b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the breeding or genetic method used more often in this farm? [CONDITION: Ask only if the answer is YES for more than one option among <b>c2_1b</b> variables]	Variable <b>c2_1c</b>	Answer 1 = Breed substitution 2 = Inbreeding or Crossbreeding 3 = Artificial insemination (AI) 4 = Selective breeding based on molecular genetics (marker-assisted selection, PCR, DNA sequencing, transgenesis, cloning, genomics) 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using artificial insemination or selective breeding based on molecular genetics for breeding and genetics? [CONDITION: ask this question only if <b>c2_1b3=1</b> or <b>c2_1b4=1</b> ]	<b>c2_1d</b>	(Number of years)

## C2.2. Nutrition and Feeding

Question	Variable	Answer
Does this farm implement animal nutrition and feeding procedure in house? [SKIP: If <b>c2_2a1=1</b> go to question <b>c2_2b1</b> ]	<b>c2_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c2_2a2=1</b> go to question <b>c2_2b1</b> ]	<b>c2_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c2_3a1</b> ]	<b>c2_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for animal nutrition?	Variable	Answer
Household waste (food leftovers, kitchen residues etc.) or fibrous crop residues	<b>c2_2b1</b>	1 = Yes 2 = No -9 = Don't know
Natural grasslands and pastures	<b>c2_2b2</b>	1 = Yes 2 = No -9 = Don't know

Integrated crop-livestock systems: crop-pasture (e.g. soybean-pasture, tree-crop-pasture; tree-pasture; tree-crop)	<b>c2_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Production of forage crops	<b>c2_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Production of supplementary feed to grazing pastures: hay, silage, grains feed	<b>c2_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Manufacturing or mixing of feed (use of feed mills on premises)	<b>c2_2b6</b>	1 = Yes 2 = No	-9 = Don't know
Production of genetically-modified feed	<b>c2_2b7</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c2_2b8</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the nutrition method used more often in this farm?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c2_2b</b> variables]</p>	<p>Variable</p> <p><b>c2_2c</b></p>	<p>Answer</p> <p>1 = Household waste (food leftovers, kitchen residues etc.) or fibrous crop residues</p> <p>2 = Natural grasslands and pastures</p> <p>3 = Integrated crop-livestock systems: crop-pasture</p> <p>4 = Production of forage crops</p> <p>5 = Production of supplementary feed to grazing pastures: hay, silage, grains feed</p> <p>6 = Manufacturing or mixing of feed (use of feed mills on premises)</p> <p>7 = Production of genetically-modified feed</p> <p>8 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using supplementary feed to grazing pastures, manufacturing or mixing of feed, or genetically-modified feed for nutrition?</p> <p>[CONDITION: ask this question only if <b>c2_2b5=1, c2_2b6=1, or c2_2b7=1</b>]</p>	<b>c2_2d</b>	(Number of years)

### C2.3. Animal healthcare

Question	Variable	Answer
<p>Does this establishment implement animal healthcare procedure in house?</p> <p>[SKIP: If <b>c2_3a1=1</b> go to question <b>c2_3b1</b>]</p>	<b>c2_3a1</b>	1 = Yes 2 = No

Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c2_3a2=1 go to question c2_3b1]	<b>c2_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c2_4a1]	<b>c2_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for animal healthcare?	Variable	Answer	
Rapid diagnostic tests (e.g pathology, bacteriology, parasitology, toxicology, serology, histology, molecular diagnostics, avian flu etc.)	<b>c2_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Pest sprays	<b>c2_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Vaccines (live-attenuated, inactivated or subunit)	<b>c2_3b3</b>	1 = Yes 2 = No	-9 = Don't know
DNA or RNA-based vaccine	<b>c2_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Disease medication (antibiotics, coccidiostats, deworming medicine etc.)	<b>c2_3b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c2_3b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What the animal healthcare method used more often in this establishment? [CONDITION: Ask only if the answer is YES for more than one option among c2_3b variables]	Variable <b>c2_3c</b>	Answer 1 = Rapid diagnostic tests (e.g. pathology, bacteriology, parasitology, toxicology, serology, histology, molecular diagnostics, avian flu etc.) 2 = Pest sprays 3 = Vaccines (live-attenuated, inactivated or subunit) 4 = DNA or RNA-based vaccine 5 = Disease medication (antibiotics, coccidiostats, deworming medicine etc.) 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years this establishment has been using vaccines for animal healthcare? [CONDITION: ask this question only if c2_3b3=1 or c2_3b4=1]	<b>c2_3d</b>	(Number of years)

#### C2.4. Herd management and monitoring

Question	Variable	Answer
Does this establishment conduct herd management and monitoring in house? [SKIP: If <b>c2_4a1=1</b> go to question <b>c2_4b1</b> ]	<b>c2_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c2_4a2=1</b> go to question <b>c2_4b1</b> ]	<b>c2_4a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c2_5a1</b> ]	<b>c2_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for herd management and monitoring?	Variable	Answer	
Human monitoring	<b>c2_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Animal-aided monitoring	<b>c2_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Feedlots or grazing system	<b>c2_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Automated cameras and video	<b>c2_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Unmanned aerial vehicles (drones) and photographs / video	<b>c2_4b5</b>	1 = Yes 2 = No	-9 = Don't know
Analog tracking devices attached to animals (tail paints, scratch cards, tags)	<b>c2_4b6</b>	1 = Yes 2 = No	-9 = Don't know
Digital tracking device attached to animal (wearable activity monitors, RFID heat-detection tags, calving sensors, ingestible microchips)	<b>c2_4b7</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c2_4b8</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the herd management and monitoring method used more often in this farm? [CONDITION: Ask only if the answer is YES for more than one option among <b>c2_4b</b> variables]	Variable	Answer
	<b>c2_4c</b>	1 = Human monitoring 2 = Animal-aided monitoring 3 = Feedlots or grazing system 4 = Automated cameras and video 5 = Unmanned aerial vehicles (drones) and photographs / video 6 = Analog tracking devices attached to animals (tail paints, scratch cards, tags)

		7 = Digital tracking device attached to animal (wearable activity monitors, RFID heat-detection tags, calving sensors, ingestible microchips) 8 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using <b>unmanned aerial vehicles or analog tracking devices or digital tracking devices attached to animals</b> for herd management and monitoring? [CONDITION: ask this question only if <b>c2_4b5=1 or c2_4b6=1 or c2_4b7=1</b> ]	<b>c2_4d</b>	(Number of years)

### C2.5. Transport of livestock

Question	Variable	Answer
Is the transport of livestock directly done by this establishment's workers? [SKIP: If <b>c2_5a1=1</b> go to question <b>c2_5b1</b> ]	<b>c2_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same enterprise? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c2_5a2=1</b> go to question <b>c2_5b1</b> ]	<b>c2_5a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another enterprise? [SKIP: Go to question <b>D1</b> ]	<b>c2_5a3</b>	1 = Yes 2 = No -9 = Don't know

Question: Does this establishment use any of the following methods for transport of livestock?	Variable	Answer	
Manual transport (carried on-foot)	<b>c2_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Non-motorized vehicles (carts, bicycles)	<b>c2_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Motorized vehicles (motorcycles, three-wheelers, cars, buses, trucks etc.)	<b>c2_5b3</b>	1 = Yes 2 = No	-9 = Don't know
Specialized / climate-controlled vehicles (ventilation, heat control, nonslip floors, partitioned areas, cold-chain)	<b>c2_5b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c2_5b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the transport method used more often in this establishment?	Variable	Answer
	<b>c2_5c</b>	1 = Manual transport (carried on-foot)

<p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c2_5b</b> variables]</p>		<p>2 = Non-motorized vehicles (carts, bicycles)  3 = Motorized vehicles (motorcycles, three-wheelers, cars, buses, trucks etc.)  4 = Specialized / climate-controlled vehicles (ventilation, heat control, nonslip floors, partitioned areas, cold-chain)  5 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using <b>specialized climate-controlled vehicles</b> for transport?  [CONDITION: ask this question only if <b>c2_5b4=1</b>]</p>	<p><b>c2_5d</b></p>	<p>(Number of years)</p>

### 3. Food Processing (Manufacturing)

#### C3.0 Screening questions

Question	Variable	Answer
Is this establishment regulated and inspected by a government agency related to food processing?	<b>c3_0a1</b>	1 = Yes 0 = No -9 = Don't know -7 = Not applicable
What is the main agency that regulates this establishment? [CONDITION: ask only if <b>c3_0a1=1</b> ]	<b>c3_0a2</b>	Name of the agency

Question	Variable	Answer
Are the finished products made by this establishment shelf stable?	<b>c3_0b1</b>	1 = Yes 0 = No -9 = Don't know -7 = Not applicable
Are the finished products made by this establishment fresh/perishable?	<b>c3_0b2</b>	1 = Yes 0 = No -9 = Don't know -7 = Not applicable

#### C3.1 Input testing

Question	Variable	Answer
Does this establishment conduct input testing in house? [SKIP: If <b>c3_1a1=1</b> go to question <b>c3_1b1</b> ]	<b>c3_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c3_1a2=1</b> go to question <b>c3_1b1</b> ]	<b>c3_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c3_2a1</b> ]	<b>c3_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following input testing mechanisms?	Variable	Answer
Sensory systems (e.g. visual, smell, tactile, color)	<b>c3_1b1</b>	1 = Yes 2 = No -9 = Don't know

Review of supplier testing on Certificate of Analysis	<b>c3_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Non-computer-controlled testing kits	<b>c3_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Computer testing such as chromatography or spectroscopy	<b>c3_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c3_1b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the input testing mechanism used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c3_1b</b> variables]	Variable <b>c3_1c</b>	Answer 1 = Sensory (visual, smell, color, etc.) 2 = Review of supplier testing on Certificate of Analysis 3 = Non-computer-controlled testing kits 4 = Computer testing such as chromatography or spectroscopy 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using computer testing for input testing? [CONDITION: ask this question only if <b>c3_1b3=1</b> or <b>c3_1b4=1</b> ]	<b>c3_1d</b>	(Number of years)

### C3.2 Mixing/blending/cooking

Question	Variable	Answer
Does this establishment process food preparation such as mixing, blending, or cooking in house? [SKIP: If <b>c3_2a1=1</b> go to question <b>c3_2b1</b> ]	<b>c3_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c3_2a2=1</b> go to question <b>c3_2b1</b> ]	<b>c3_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c3_3a1</b> ]	<b>c3_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following food preparation methods such as mixing, blending?	Variable	Answer
Manual process	<b>c3_2b1</b>	1 = Yes 2 = No -9 = Don't know

Mechanical equipment requiring human force to operate	<b>c3_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Power equipment requiring routine human interaction	<b>c3_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Power equipment controlled by computers or robotics, with minimal human interaction	<b>c3_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c3_2b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the mixing, blending or cooking method used more often in this facility?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c3_2b</b> variables]</p>	<p>Variable</p> <p><b>c3_2c</b></p>	<p>Answer</p> <p>1 = Manual process</p> <p>2 = Mechanical equipment requiring human force to operate</p> <p>3 = Power equipment requiring routine human interaction</p> <p>4 = Power equipment controlled by computers or robotics, with minimal human interaction</p> <p>5 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using power equipment for mixing, blending or cooking?</p> <p>[CONDITION: ask this question only if <b>c3_2b3=1</b> or <b>c3_2b4=1</b>]</p>	<b>c3_2d</b>	(Number of years)

### C3.3 Anti-bacterial processes

Question	Variable	Answer
<p>Does this establishment handle anti-bacterial processes in house?</p> <p>[SKIP: If <b>c3_3a1=1</b> go to question <b>c3_3b1</b>]</p>	<b>c3_3a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same firm?</p> <p>[CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]</p> <p>[SKIP: If <b>c3_3a2=1</b> go to question <b>c3_3b1</b>]</p>	<b>c3_3a2</b>	1 = Yes 2 = No -9 = Don't know
<p>Is this task outsourced to another firm?</p> <p>[SKIP: Go to question <b>c3_4a1</b>]</p>	<b>c3_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following anti-bacterial processes?	Variable	Answer
Minimal-processing preservation methods	<b>c3_3b1</b>	1 = Yes 2 = No -9 = Don't know

Anti-bacterial wash or soaking	<b>c3_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Thermal Processing Technologies	<b>c3_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Other advanced methods such as High-pressure processing (HPP) and Pulsed electric field (PEF)	<b>c3_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c3_3b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the anti-bacterial process used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c3_3b</b> variables]	Variable <b>c3_3c</b>	Answer 1 = Minimal-processing preservation methods 2 = Anti-bacterial wash or soaking 3 = Thermal Processing Technologies 4 = Other advanced methods such as High-pressure processing (HPP) and Pulsed electric field (PEF) 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using <b>thermal or more advanced anti-bacterial processes</b> for anti-bacterial processes? [CONDITION: ask this question only if <b>c3_3b3=1</b> or <b>c3_3b4=1</b> ]	<b>c3_3d</b>	(Number of years)

### C3.4 Packaging

Question	Variable	Answer
Does this establishment proceed with packaging in house? [SKIP: If <b>c3_4a1=1</b> go to question <b>c3_4b1</b> ]	<b>c3_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c3_4a2=1</b> go to question <b>c3_4b1</b> ]	<b>c3_4a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c3_5a1</b> ]	<b>c3_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following packaging methods?	Variable	Answer	
Manual packing in bags, bottles or boxes	<b>c3_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Human operated mechanical equipment for packaging in bags, bottles or boxes	<b>c3_4b2</b>	1 = Yes 2 = No	-9 = Don't know

Power equipment requiring routine human interaction	<b>c3_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Power equipment controlled by computers or robotics, with minimal human interaction	<b>c3_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c3_4b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the packaging procedure used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c3_4b</b> variables]	Variable <b>c3_4c</b>	Answer 1 = Manual packing in bags, bottles or boxes 2 = Human operated mechanical equipment for packaging in bags, bottles or boxes 3 = Power equipment requiring routine human interaction 4 = Power equipment controlled by computers or robotics, with minimal human interaction 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using power equipment for packaging? [CONDITION: ask this question only if <b>c3_4b3=1</b> or <b>c3_4b4=1</b> ]	<b>c3_4d</b>	(Number of years)

### C3.5 Food storage

Question	Variable	Answer
Does this establishment store the food in house? [SKIP: If <b>c3_5a1=1</b> go to question <b>c3_5b1</b> ]	<b>c3_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c3_5a2=1</b> go to question <b>c3_5b1</b> ]	<b>c3_5a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c3_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following food storage conditions?	Variable	Answer	
Minimal protection with some exposure to outside elements	<b>c3_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Ambient conditions in closed building	<b>c3_5b2</b>	1 = Yes 2 = No	-9 = Don't know

Some climate control in secured building (e.g. partial or seasonal control)	<b>c3_5b3</b>	1 = Yes 2 = No	-9 = Don't know
Fully automated climate and security-controlled building	<b>c3_5b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c3_5b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What are the food storage conditions more often observed in this facility?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c3_5b</b> variables]</p>	<p>Variable</p> <p><b>c3_5c</b></p>	<p>Answer</p> <p>1 = Minimal protection with some exposure to outside elements</p> <p>2 = Ambient conditions in closed building</p> <p>3 = Some climate control in secured building (e.g. partial or seasonal control)</p> <p>4 = Fully automated climate and security-controlled building</p> <p>5 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using climate control in secured building for food storage?</p> <p>[CONDITION: ask this question only if <b>c3_5b3=1</b> or <b>c3_5b4=1</b>]</p>	<b>c3_5d</b>	(Number of years)

#### 4. Wearing apparel (manufacturing)

Question: What material does this establishment use to start production?	Variable	Answer	
Printed fabric (e.g. this establishment assembled the provided fabric)	<b>c4_0a1</b>	1 = Yes 2 = No	-9 = Don't know
White fabric (e.g. this establishment die the fabric)	<b>c4_0a2</b>	1 = Yes 2 = No	-9 = Don't know
Fabric threads (e.g. this establishment weave the fabric)	<b>c4_0a3</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_0a4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What garments are produced by this establishment?	Variable	Answer	
Basic: TShirt, shorts, cotton, poly, denim	<b>c4_0b1</b>	1 = Yes 2 = No	-9 = Don't know
Fashion: Complex cuts and stich, material mix	<b>c4_0b2</b>	1 = Yes 2 = No	-9 = Don't know
Sports: alternative finishes such as waterproof, reflective	<b>c4_0b3</b>	1 = Yes 2 = No	-9 = Don't know
Protective apparel: including padding, TPR	<b>c4_0b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_0b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What finishes are available in this establishment?	Variable	Answer	
Silk screen	<b>c4_0c1</b>	1 = Yes 2 = No	-9 = Don't know
Embroidery	<b>c4_0c2</b>	1 = Yes 2 = No	-9 = Don't know
Washing	<b>c4_0c3</b>	1 = Yes 2 = No	-9 = Don't know
Waterproofing	<b>c4_0c4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>C4_0c5</b>	1 = Yes 2 = No	-9 = Don't know

#### C4.1 Design

Do clients provide files for design to this establishment? [SKIP: If <b>c4_1a1=2</b> go to question <b>c4_1a3</b> ]	<b>c4_1a1</b>	1 = Yes 2 = No
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Question: What is the most common file provided by clients for design?	Variable <b>c4_1a2</b>	Answer 1 = Graded file of all sizes ready to cut 2 = A prototype cutting file for grading 3 = Hand drawing of the design 4 = Computer drawing of the design 5 = 3D file of the design 6 = Other -9 = Don't know
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Question	Variable	Answer
Does this establishment do design in house? [SKIP: If <b>c4_1a3=1</b> go to question <b>c4_1b1</b> ]	<b>c4_1a3</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c4_1a4=1</b> go to question <b>c4_1b1</b> ]	<b>c4_1a4</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c4_2a1</b> ]	<b>c4_1a5</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following design drawing processes?	Variable	Answer	
Manual design and hand drawing	<b>c4_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Digital or semi-digital design using specialized 2D drawing software	<b>c4_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Computer Aided Design (CAD), 3D design, virtual prototyping	<b>c4_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_1b4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the design drawing process used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c4_1b</b> variables]	Variable <b>c4_1c</b>	Answer 1 = Manual design and hand drawing 2 = Digital or semi-digital design using specialized 2D drawing software 3 = Computer Aided Design (CAD), 3D design, virtual prototyping 4 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using specialized software, 3D design, or virtual prototyping? [CONDITION: ask this question only if <b>c4_1b2=1</b> or <b>c4_1b3=1</b> ]	<b>c4_1d</b>	(Number of years)

## C4.2 Cutting

Question	Variable	Answer
Does this establishment handle cut process in house? [SKIP: If <b>c4_2a1=1</b> go to question <b>c4_2b1</b> ]	<b>c4_2a1</b>	1 = Yes 2 = No
Is this task outsourced another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c4_2a2=1</b> go to question <b>c4_2b1</b> ]	<b>c4_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c4_3a1</b> ]	<b>c4_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following cutting methods?	Variable	Answer	
Manual cutting	<b>c4_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Cutting machine manually operated	<b>c4_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Semi-Automatic cutting machine (straight knife, round knife, die cutting machine)	<b>c4_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Automatic or Computerized cutting machine (no Laser: water jet, knife, other)	<b>c4_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Automatic/Computerized cutting machine (Laser)	<b>c4_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_2b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the cutting method used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c4_2b</b> variables]	Variable	Answer
	<b>c4_2c</b>	1 = Manual cutting 2 = Cutting machine manually operated 3 = Semi-Automatic cutting machine (straight knife, round knife, die cutting machine) 4 = Automatic or Computerized cutting machine (no Laser: water jet, knife, other) 5 = Automatic/Computerized cutting machine (Laser) 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using automatic cutting machines and lasers? [CONDITION: ask this question only if <b>c4_2b4=1</b> or <b>c4_2b5=1</b> ]	<b>c4_2d</b>	(Number of years)

### C4.3 Sewing and Joining Parts

Question	Variable	Answer
Does this establishment handle sew process in house? [SKIP: If <b>c4_3a1=1</b> go to question <b>c4_3b1</b> ]	<b>c4_3a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c3a2=1</b> go to question <b>c3b1</b> ]	<b>c4_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c4_4a1</b> ]	<b>c4_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following sewing methods?	Variable	Answer	
Manually sewing	<b>c4_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Machine sewing manually operated	<b>c4_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Semi-automated sewing machines	<b>c4_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Automated sewing machines	<b>c4_3b4</b>	1 = Yes 2 = No	-9 = Don't know
3D Knitting	<b>c4_3b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_3b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the sewing method used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c4_3b</b> variables]	Variable	Answer
	<b>c4_3c</b>	1 = Manually sewing 2 = Machine sewing manually operated 3 = Semi-automated sewing machines 4 = Automated sewing machines 5 = 3D Knitting machines 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using semi-automated sewing machines or automated sewing machines or 3D knitting? [CONDITION: ask this question only if <b>c4_3b3=1</b> or <b>c4_3b4=1</b> or <b>c4_3b5=1</b> ]	<b>c4_3d</b>	(Number of years)

### C4.4 Finishing – Ironing

Question	Variable	Answer
Does this establishment handle finishing and ironing process in house? [SKIP: If <b>c4_4a1=1</b> go to question <b>c4_4b1</b> ]	<b>c4_4a1</b>	1 = Yes 2 = No
Is this task outsourced another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c4_4a2=1</b> go to question <b>c4_4b1</b> ]	<b>c4_4a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c4_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following finishing and ironing methods?	Variable	Answer	
Basic manual ironing	<b>c4_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Electric high-pressure steam iron	<b>c4_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Tunnel finisher	<b>c4_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Form finishing machine	<b>c4_4b4</b>	1 = Yes 2 = No	-9 = Don't know
High tech pressing machine	<b>c4_4b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c4_4b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the finishing and ironing method used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c4_4b</b> variables]	Variable	Answer
	<b>c4_4c</b>	1 = Basic manual ironing 2 = Electric high-pressure steam iron 3 = Tunnel finisher 4 = Form finishing machine 5 = High tech pressing machine 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using form finishing machines or high-tech pressing machines? [CONDITION: ask this question only if <b>c4_4b3=1</b> or <b>c4_4b4=1</b> or <b>c4_4b5=1</b> ]	<b>c4_4d</b>	(Number of years)

## 5. Automotive (manufacturing)

### C5.1 Vehicle assembly, advanced processing and fabrication technology

Question	Variable	Answer
Does this establishment assemble vehicles? [SKIP: If <b>c5_1a1=1</b> go to question <b>c5_1b1</b> ]	<b>c5_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c5_1a2=1</b> go to question <b>c5_1b1</b> ]	<b>c5_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c5_2a1</b> ]	<b>c5_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following assembly or fabrication processes?	Variable	Answer	
Machines fully controlled by operators	<b>c5_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Flexible Manufacturing Cells (FMC) or Flexible Manufacturing Systems (FMS)	<b>c5_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Lasers used in materials processing (including surface modification)	<b>c5_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Computer numerically controlled (CNC) machinery	<b>c5_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Robots	<b>c5_1b5</b>	1 = Yes 2 = No	-9 = Don't know
Additive manufacturing including including rapid prototyping and 3D printers	<b>c5_1b6</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c5_1b7</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the assembly or fabrication process used more often in these facilities? [CONDITION: Ask only if the answer is YES for more than one option among <b>c5_1b</b> variables]	Variable	Answer
	<b>c5_1c</b>	1 = Machines fully controlled by operators 2 = Flexible Manufacturing Cells (FMC) or Flexible Manufacturing Systems (FMS) 3 = Lasers used in materials processing (including surface modification) 4 = Computer numerically controlled (CNC) machinery 5 = Robots 6 = Additive manufacturing including including rapid prototyping and 3D printers 7 = Others -9 = Don't know

Question	Variable	Answer
For how many years this establishment has been using Computer numerically controlled (CNC) machinery, robots, or additive manufacturing? [CONDITION: ask this question only if c5_1b4=1 or c5_1b5=1 or c5_1b6=1]	<b>c5_1d</b>	(Number of years)

## C5.2 Body pressing and welding

Question	Variable	Answer
Does this establishment handle body press and welding in house? [SKIP: If c5_2a1=1 go to question c5_2b1]	<b>c5_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c5_2a2=1 go to question c5_2b1]	<b>c5_2a2</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c5_3a1]	<b>c5_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following body pressing and welding methods?	Variable	Answer	
Pressing of skin panels using operators	<b>c5_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Pressing of structural components using operators	<b>c5_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Welding of main body using operators	<b>c5_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Pressing of skin panels automated using robotics	<b>c5_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Pressing of structural components automated using robotics	<b>c5_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Welding of main body automated using robotics	<b>c5_2b6</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c5_2b7</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the pressing and welding method used more often in this facility?	Variable	Answer
	<b>c5_2c</b>	1 = Pressing of skin panels using operators 2 = Pressing of structural components using operators

<p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c5_2b</b> variables]</p>		<p>3 = Welding of main body using operators  4 = Pressing of skin panels automated using robotics  5 = Pressing of structural components automated using robotics  6 = Welding of main body automated using robotics  7 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using pressing of structural components automated using robotics, welding of main body using operators or welding of main body automated using robotics?</p> <p>[CONDITION: ask this question only if <b>c5_2b4=1</b> or <b>c5_2b5=1</b> or <b>c5_2b6=1</b>]</p>	<p><b>c5_2d</b></p>	<p>(Number of years)</p>

### C5.3 Painting

Question	Variable	Answer
<p>Does this establishment handle painting process in house?  [SKIP: If <b>c5_3a1=1</b> go to question <b>c5_3b1</b>]</p>	<p><b>c5_3a1</b></p>	<p>1 = Yes  2 = No</p>
<p>Is this task outsourced to another unit of the same firm?  [CONDITION: Only for multi-establishment firms (<b>s4=1</b>)  [SKIP: If <b>c5_3a2=1</b> go to question <b>c5_3b1</b>]</p>	<p><b>c5_3a2</b></p>	<p>1 = Yes  2 = No  -9 = Don't know</p>
<p>Is this task outsourced to another firm?  [SKIP: Go to question <b>c5_4a1</b>]</p>	<p><b>c5_3a3</b></p>	<p>1 = Yes  2 = No  -9 = Don't know  -7 = Not applicable</p>

Question: Does this establishment use any of the following painting methods?	Variable	Answer	
Water-based painting using operators	<b>c5_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Solvent-based painting using operators	<b>c5_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Water-based painting automated using robotics	<b>c5_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Solvent-based painting automated using robotics	<b>c5_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c5_3b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the painting method used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among c5_3b variables]	Variable <b>c5_3c</b>	Answer 1 = Water-based painting using operators 2 = Solvent-based painting using operators 3 = Water-based painting automated using robotics 4 = Solvent-based painting automated using robotics 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using water-based painting automated using robotics or solvent-based painting automated using robotics? [CONDITION: ask this question only if c5_3b3=1 or c5_3b4=1]	<b>c5_3d</b>	(Number of years)

#### C5.4 Plastic injection molding

Question	Variable	Answer
Does this establishment handle plastic injection molding in house? [SKIP: If c5_4a1=1 go to question c5_4b1]	<b>c5_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c5_4a2=1 go to question c5_4b1]	<b>c5_4a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c5_5a1]	<b>c5_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following plastic injection molding methods?	Variable	Answer	
Molding of non-visible interior plastic components using operators	<b>c5_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Molding of plastic exterior body parts using operators	<b>c5_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Molding of non-visible interior plastic components automated using robotics	<b>c5_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Molding of plastic exterior body parts automated using robotics	<b>c5_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c5_4b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the plastic injection molding method used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c5_4b</b> variables]	Variable <b>c5_4c</b>	Answer 1 = Molding of non-visible interior plastic components using operators 2 = Molding of plastic exterior body parts using operators 3 = Molding of non-visible interior plastic components automated using robotics 4 = Molding of plastic exterior body parts automated using robotics 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years this establishment has been using molding of non-visible interior plastic components using robotics or molding of plastic exterior body parts automated using robotic? [CONDITION: ask this question only if <b>c5_4b3=1</b> or <b>c5_4b4=1</b> ]	<b>c5_4d</b>	(Number of years)

### C5.5. Productive assets management

Question	Variable	Answer
Does this establishment implement productive assets management in house? [SKIP: If <b>c5_5a1=1</b> go to question <b>c5_5b1</b> ]	<b>c5_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c5_5a2=1</b> go to question <b>c5_5b1</b> ]	<b>c5_5a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c5_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following productive asset management systems?	Variable	Answer	
Breakdown maintenance system	<b>c5_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Preventative or predictive maintenance system	<b>c5_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Model Based Condition Monitoring	<b>c5_5b3</b>	1 = Yes 2 = No	-9 = Don't know

Other	<b>c5_5b4</b>	1 = Yes 2 = No	-9 = Don't know
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<p>Question: What are the more often observed food storage conditions in this facility?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c5_5b</b> variables]</p>	<p>Variable</p> <p><b>c5_5c</b></p>	<p>Answer</p> <p>1 = Breakdown maintenance system</p> <p>2 = Preventative or predictive maintenance system</p> <p>3 = Model Based Condition Monitoring</p> <p>4 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using preventive maintenance system or model-based condition monitoring?</p> <p>[CONDITION: ask this question only if <b>c5_5b2=1</b> or <b>c5_5b3=1</b>]</p>	<b>c5_5d</b>	(Number of years)

## 6. Pharmaceutical Processing (manufacturing)

Question: What sort of drugs this establishment produce?	Variable	Answer	
Tablets and capsules	<b>c6_0a1</b>	1 = Yes 2 = No	-9 = Don't know
Creams and ointments	<b>c6_0a2</b>	1 = Yes 2 = No	-9 = Don't know
Eye and ear solutions	<b>c6_0a3</b>	1 = Yes 2 = No	-9 = Don't know
Syrups and dry powders	<b>c6_0a4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the main product produced by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among c6_0a variables]	Variable	Answer	
	<b>c6_0b1</b>	1 = Tablets and capsules 2 = Creams and ointments 3 = Eye and ear solutions 4 = Syrups and dry powders	

	Variable	Answer	
Does this establishment conduct research associated with new-drug discovery? [SKIP: If c6_0c1=2 go to section c6_1a1]	<b>c6_0c1</b>	1 = Yes 2 = No	-9 = Don't know
Are the lead researchers of these projects mostly direct employees of this establishment?	<b>c6_0c2</b>	1 = Yes 2 = No.	-9 = Don't know

### C6.1 Facilities

Question	Variable	Answer	
Does this establishment use its facilities to mix raw material and compounding in house? [SKIP: If c6_1a1=1 go to question c6_1b1]	<b>c6_1a1</b>	1 = Yes 2 = No	
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c6_1a2=1 go to question c6_1b1]	<b>c6_1a2</b>	1 = Yes 2 = No	-9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c6_2b1]	<b>c6_1a3</b>	1 = Yes 2 = No	-9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following air filtration systems?	Variable	Answer	
Unfiltered air in filling space	<b>c6_1b1</b>	1 = Yes 2 = No	-9 = Don't know

Basic air filtration	<b>c6_1b2</b>	1 = Yes 2 = No	-9 = Don't know
HEPA air filtration	<b>c6_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Ultra HEPA air, pressurization control	<b>c6_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c6_1b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the air filtration system used more often in these facilities?  [CONDITION: Ask only if the answer is YES for more than one option among <b>c6_1b</b> variables]</p>	<p>Variable <b>c6_1c</b></p>	<p>Answer  1 = Unfiltered air in filling space  2 = Basic air filtration  3 = HEPA air filtration  4 = Ultra HEPA air, pressurization control  5 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years this establishment has been using HEPA air filtration or ultra HEPA air, pressurization control for raw material weighing and dispensing in these facilities?  [CONDITION: ask this question only if <b>c6_1b3=1</b> or <b>c6_1b4=1</b>]</p>	<b>c6_1d</b>	(Number of years)

## C6.2 Raw Material Weighing & Dispensing

Question: Does this establishment use any of the following weighting scale systems?	Variable	Answer	
Beam Scales	<b>c6_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Analog Scales	<b>c6_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Electronic Scales	<b>c6_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Automated Weighing Systems	<b>c6_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c6_2b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the weighting scale system used more often by this establishment?  [CONDITION: Ask only if the answer is YES for more than one option among <b>c6_2b</b> variables]</p>	<p>Variable <b>c6_2c</b></p>	<p>Answer  1 = Beam Scales  2 = Analog Scales  3 = Electronic Scales  4 = Automated Weighing Systems  5 = Other</p>
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		-9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been automated weighing systems for raw material and weighing? [CONDITION: ask this question only if c6_2b4=1]	c6_2d	(Number of years)

### C6.3 Mixing and Compounding

Question: Does this establishment use any of the following mixing and compounding systems?	Variable	Answer	
Manual Mixing	c6_3b1	1 = Yes 2 = No	-9 = Don't know
Planetary Mixers OR homogenizers	c6_3b2	1 = Yes 2 = No	-9 = Don't know
High Speed, High Shear Granulators	c6_3b3	1 = Yes 2 = No	-9 = Don't know
Fluid Bed Processors (not with syrups)	c6_3b4	1 = Yes 2 = No	-9 = Don't know
Fully Automated Compounding	c6_3b5	1 = Yes 2 = No	-9 = Don't know
Other	c6_3b6	1 = Yes 2 = No	-9 = Don't know

Question: What is the mixing and compounding system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among c6_3b variables]	Variable	Answer
	c6_3c	1 = Manual Mixing 2 = Planetary Mixers OR homogenizers 3 = High Speed, High Shear Granulators 4 = Fluid Bed Processors (not with syrups) 5 = Fully Automated Compounding 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using high speed, high shear granulators, fluid bed processors or automated compounding? [CONDITION: ask this question only if c6_3b3=1 or c6_3b4=1 or c6_3b5=1]	c6_3d	(Number of years)

## C6.4 Compression and Encapsulation

[SKIP: If **c6\_0b1=3** OR **c6\_0b1=4** go to question **c6\_5a1**]

Question	Variable	Answer
Does this establishment employ compression or encapsulation methods for production in house? [SKIP: If <b>c6_4a1=1</b> go to question <b>c6_4b1</b> ]	<b>c6_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c6_4a2=1</b> go to question <b>c6_4b1</b> ]	<b>c6_4a2</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c6_5a1</b> ]	<b>c6_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following compression or encapsulation methods?	Variable	Answer	
Manual Compression, Encapsulation with dosing dies	<b>c6_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Motorized Compression, Encapsulation	<b>c6_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Automated Compression, Encapsulation	<b>c6_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Integrated Compression, Encapsulation	<b>c6_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c6_4b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the compression or encapsulation method used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c6_4b</b> variables]	Variable	Answer
	<b>c6_4c</b>	1 = Manual Compression, Encapsulation with dosing dies 2 = Motorized Compression, Encapsulation 3 = Automated Compression, Encapsulation 4 = Integrated Compression, Encapsulation 5 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <b>automate compression</b> or <b>integrated compression</b> for compression? [CONDITION: ask this question only if <b>c6_4b3=1</b> or <b>c6_4b4=1</b> ]	<b>c6_4d</b>	(Number of years)

## C6.5 Quality Control

Question	Variable	Answer
Does this establishment have an in-house quality control system? [SKIP: If <b>c6_5a1=1</b> go to question <b>c6_5b1</b> ]	<b>c6_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c6_5a2=1</b> go to question <b>c6_5b1</b> ]	<b>c6_5a2</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c6_6b1</b> ]	<b>c6_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following quality control systems?	Variable	Answer	
Manual, titrimetric/ chromatographic analyses	<b>c6_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Electronic chromatography	<b>c6_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Electronic chromatography with data acquisition	<b>c6_5b3</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c6_5b4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the quality control system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c6_5b</b> variables]	Variable	Answer
	<b>c6_5c</b>	1 = Manual, titrimetric/ chromatographic analyses 2 = Electronic chromatography 3 = Electronic chromatography with data acquisition 4 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <b>electronic chromatography</b> or <b>electronic chromatography with data acquisition</b> for quality control? [CONDITION: ask this question only if <b>c6_5b2=1</b> or <b>c6_5b3=1</b> ]	<b>c6_5d</b>	(Number of years)

## C1.6 Packaging

Question	Variable	Answer
Does this establishment package products in house? [SKIP: If <b>c6_6a1=1</b> go to question <b>c6_6b1</b> ]	<b>c6_6a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c6_6a2=1</b> go to question <b>c6_6b1</b> ]	<b>c6_6a2</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c6_6a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following packaging methods?	Variable	Answer	
Manual filling of pills in bottles OR placement of syrups, powders in bottles or pouches	<b>c6_6b1</b>	1 = Yes 2 = No	-9 = Don't know
For pills: Slat Counters, Cottoners, Cappers, Labelers OR machine filling of syrups, powders in bottles or pouches	<b>c6_6b2</b>	1 = Yes 2 = No	-9 = Don't know
Automated, Integrated Packaging Lines	<b>c6_6b3</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c6_6b4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the packaging method used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c6_6b</b> variables]	Variable	Answer
	<b>c6_6c</b>	1 = Manual filling of pills in bottles OR placement of syrups, powders in bottles or pouches 2 = For pills: Slat Counters, Cottoners, Cappers, Labelers OR machine filling of syrups, powders in bottles or pouches 3 = Automated, Integrated Packaging Lines 4 = Other -9 = Don't know

Question	Variable	Answer
For how many years this establishment has been using Slat counters, Cottoners, Cappers, Labelers OR machine filling automated, integrated packaging lines for packaging? [CONDITION: ask this question only if <b>c6_6b2=1</b> or <b>c6_6b3=1</b> ]	<b>c6_6d</b>	(Number of years)

## 7. Retail (services)

### C 7.1 Customer service

Question	Variable	Answer
Does this establishment provide customer supporting services in house (e.g. technical support, complaints, return)? [SKIP: If <b>c7_1a1=1</b> go to question <b>c7_1b1</b> ]	<b>c7_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c7_1a2=1</b> go to question <b>c7_1b1</b> ]	<b>c7_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c7_2a1</b> ]	<b>c7_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment provide any of the following customer service channels?	Variable	Answer	
At the Store	<b>c7_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Phone call or call Help Desk	<b>c7_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Social Media (e.g. Facebook, WhatsApp, or similar)	<b>c7_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Online requests (using own website or specialized digital platform or App)	<b>c7_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Chatbots (e.g. a computer program which conducts a conversation via auditory or textual methods without human interaction by the company)	<b>c7_1b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c7_1b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the customer service procedure used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c7_1b</b> variables]	Variable	Answer
	<b>c7_1c</b>	1 = At the Store 2 = Phone call or call Help Desk 3 = Social Media (e.g. Facebook, WhatsApp, or similar) 4 = Online requests (using own website or specialized digital platform or App) 5 = Chatbots (e.g. a computer program which conducts a conversation via auditory or textual methods without human interaction by the company) 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <b>online technologies</b> for customer services? [CONDITION: ask this question only if <b>c7_1b3=1</b> or <b>c7_1b4=1</b> or <b>c7_1b5=1</b> ]	<b>c7_1d</b>	(Number of years)

## C 7.2 Pricing

Question	Variable	Answer
Does this establishment decide the pricing strategies in house? [SKIP: If <b>c7_2a1=1</b> go to question <b>c7_2b1</b> ]	<b>c7_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c7_2a2=1</b> go to question <b>c7_2b1</b> ]	<b>c7_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c7_3a1</b> ]	<b>c7_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following pricing strategies?	Variable	Answer	
Manual Cost	<b>c7_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Automated markup (excel or similar)	<b>c7_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Automated promotional (e.g. planning prices based on seasonality or other predictable events)	<b>c7_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Dynamic pricing systems (using specific software to predict demand and adjust prices)	<b>c7_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Personalized pricing driven by predictive analytics (e.g. data mining, machine learning)	<b>c7_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c7_2b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the pricing strategy used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c7_2b</b> variables]	Variable <b>c7_2c</b>	Answer
		1 = Manual Cost 2 = Automated markup (excel or similar) 3 = Automated promotional (e.g. planning prices based on seasonality or other predictable events) 4 = Dynamic pricing systems (using specific software to predict demand and adjust prices) 5 = Personalized pricing (e.g. data mining, machine learning) 6 = Other

		-9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using <b>dynamic pricing systems</b> or <b>personalized pricing</b> for pricing strategies? [CONDITION: ask this question only if <b>c7_2b4=1</b> or <b>c7_2b5=1</b> ]	<b>c7_2d</b>	(Number of years)

Is there any significant regulation that limits price mechanism decision of this establishment?	<b>c7_2da</b>	1 = Yes 2 = No -9 = Don't know
What is the agency regulating the price mechanism for this establishment?	<b>c7_2db</b>	Name of the agency

### C7.3 Merchandising

Question	Variable	Answer
Does this establishment make strategic decisions about what products are sold and how they are displayed to the costumers in house? [SKIP: If <b>c7_3a1=1</b> go to question <b>c7_3b1</b> ]	<b>c7_3a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c7_3a2=1</b> go to question <b>c7_3b1</b> ]	<b>c7_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c7_4a1</b> ]	<b>c7_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following merchandising strategies?	Variable	Answer	
Manually selecting products	<b>c7_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Category Management tools (decide how many products of each category to sell)	<b>c7_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Retail Merchandising Systems or Digital Merchandising (specialized software that takes into account the turnover, inventory, and space)	<b>c7_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Product trend analytics (forward-looking strategies based on Big data analytics, or Machine learning)	<b>c7_3b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the merchandising strategy used more often in this facility?	Variable	Answer
	<b>c7_3c</b>	1 = Manually selecting products 2 = Category Management tools (decide how many products of each category to sell)

<p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c7_3b</b> variables]</p>		<p>3 = Retail Merchandising Systems or Digital Merchandising (specialized software that takes into account the turnover, inventory, and space)  4 = Product trend analytics (forward-looking strategies based on Big data analytics, or Machine learning)  5 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using <b>digital merchandising or product trend analysis</b> for merchandising?  [CONDITION: ask this question only if <b>c7_3b3=1 or c7_3b4=1</b>]</p>	<p><b>c7_3d</b></p>	<p>(Number of years)</p>

### C7.4 Inventory

Question	Variable	Answer
<p>Does this establishment manage inventory in house?  [SKIP: If <b>c7_4a1=1</b> go to question <b>c7_4b1</b>]</p>	<p><b>c7_4a1</b></p>	<p>1 = Yes  2 = No</p>
<p>Is this task outsourced to another unit of the same firm?  [CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]  [SKIP: If <b>c7_4a2=1</b> go to question <b>c7_4b1</b>]</p>	<p><b>c7_4a2</b></p>	<p>1 = Yes  2 = No  -9 = Don't know</p>
<p>Is this task outsourced to another firm?  [SKIP: Go to question <b>c7_5a1</b>]</p>	<p><b>c7_4a3</b></p>	<p>1 = Yes  2 = No  -9 = Don't know  -7 = Not applicable</p>

Question: Does this establishment use any of the following inventory methods?	Variable	Answer	
Handwritten record keeping	<p><b>c7_4b1</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>
Computer databases with manual updates	<p><b>c7_4b2</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>
Warehouse Management System with specialized software	<p><b>c7_4b3</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>
Automated inventory control (CAO), Vendor managed inventory, and/or Radio-frequency identification	<p><b>c7_4b4</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>
Automated Storage and Retrieval systems (AS/RS)	<p><b>c7_4b5</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>
Other	<p><b>c7_4b6</b></p>	<p>1 = Yes  2 = No</p>	<p>-9 = Don't know</p>

Question: What is the inventory method use more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among c7_4b variables]	Variable <b>c7_4c</b>	Answer 1 = Handwritten record keeping 2 = Computer databases with manual updates 3 = Warehouse Management System with specialized software 4 = Automated inventory control (CAO) or Vendor managed inventory, or Radio-frequency identification 5 = Automated Storage and Retrieval systems 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using automated inventory systems for food storage? [CONDITION: ask this question only if c7_4b4 = 1 or c7_4b5=1]	<b>c7_4d</b>	(Number of years)

### C7.5 Advertisement

Question	Variable	Answer
Does this establishment use in-house expertise to implement advertisement strategies? [SKIP: If c7_5a1=1 go to question c7_5b1]	<b>c7_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c7_5a2=1 go to question c7_5b1]	<b>c7_5a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question D1]	<b>c7_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following advertisement channels?	Variable	Answer	
Paper based communication: instore signage, newspaper ads, leaflets	<b>c7_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Radio, Billboards, TV	<b>c7_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Email or mobile phone	<b>c7_5b3</b>	1 = Yes 2 = No	-9 = Don't know
Social Media (YouTube, Facebook, Twitter, Instagram) – customer cluster	<b>c7_5b4</b>	1 = Yes 2 = No	-9 = Don't know
Search Engine Marketing to customize advertisement	<b>c7_5b5</b>	1 = Yes 2 = No	-9 = Don't know

Big data Analytics or Artificial Intelligence to generate personalized advertisement	<b>c7_5b6</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c7_5b7</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the main advertisement channel and strategy used in this facility?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c7_5b</b> variables]</p>	<p>Variable</p> <p><b>c7_5c</b></p>	<p>Answer</p> <p>1 = Paper based communication</p> <p>2 = Radio, Billboards, TV</p> <p>3 = Email or mobile phone</p> <p>4 = Social Media (YouTube, Facebook, Twitter, Instagram)</p> <p>5 = Search Engine Marketing</p> <p>6 = Big data or Artificial Intelligence</p> <p>7 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using search engine marketing or big data (artificial intelligence) for advertisement?</p> <p>[CONDITION: ask this question only if <b>c7_5b5=1</b> or <b>c7_5b6=1</b>]</p>	<b>c7_5d</b>	(Number of years)

## 8. Banking (services)

Question: What customer service is available in these facilities?	Variable	Answer
What is the number of checking accounts managed by this establishment?	<b>c8_0a</b>	(Number) -9 = Don't know -7 = Not applicable
What is the number of saving accounts managed by this establishment?	<b>c8_0b</b>	(Number) -9 = Don't know -7 = Not applicable
What is the number of loans managed by this establishment?	<b>c8_0c</b>	(Number) -9 = Don't know -7 = Not applicable

### C8.1 Customer Services related to checking and saving accounts

Question	Variable	Answer
Does this establishment provide customer service related to checking and saving accounts (e.g. deposit, payment, transfers)? [SKIP: If <b>c8_1a1=1</b> go to question <b>c8_1b1</b> ]	<b>c8_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c8_1a2=1</b> go to question <b>c8_1b1</b> ]	<b>c8_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c8_2a1</b> ]	<b>c8_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment provide any of the following customer services?	Variable	Answer	
Teller (Face-to-face)	<b>c8_1b1</b>	1 = Yes 2 = No	-9 = Don't know
ATM machines	<b>c8_1b2</b>	1 = Yes 2 = No	-9 = Don't know
On-line on company website	<b>c8_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Mobile application of the company	<b>c8_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Mobile Banking	<b>c8_1b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c8_1b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the customer service used more often in these facilities? [CONDITION: Ask only if the answer is YES for more than one option among c8_1b variables]	Variable <b>c8_1c</b>	Answer 1 = Teller (Face-to-face) 2 = ATM machines 3 = On-line on company website 4 = Mobile application of the company 5 = Mobile Banking 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using online on company website, mobile application or mobile banking? [CONDITION: ask this question only if c8_1b3=1 or c8_1b4=1 or c8_1b5=1]	<b>c8_1d</b>	(Number of years)

## C8.2 Verify clients' identity and avoid fraud

Question	Variable	Answer
Does this establishment handle client identification and fraud in house? [SKIP: If c8_2a1=1 go to question c8_2b1]	<b>c8_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c8_2a2=1 go to question c8_2b1]	<b>c8_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c8_3a1]	<b>c8_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following verification method for client identification?	Variable	Answer	
Teller (Face-to-face) with documentation	<b>c8_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Use of online passwords	<b>c8_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Use of online passwords combined with security Token devices	<b>c8_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Use of digital authentication service provided by specialized firms	<b>c8_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Biometric identity verification	<b>c8_2b5</b>	1 = Yes 2 = No	-9 = Don't know

Blockchain	<b>c8_2b6</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c8_2b7</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the verification method used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c8_2b</b> variables]	Variable <b>c8_2c</b>	Answer 1 = Teller (Face-to-face) with documentation 2 = Use of online passwords 3 = Use of online passwords combined with security Token devices 4 = Use of digital authentication service provided by specialized firms 5 = Biometric identity verification 6 = Blockchain 7 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using digital authentication provided by specialized firms, biometry identity verification or block chain? [CONDITION: ask this question only if <b>c8_2b4=1</b> or <b>c8_2b5=1</b> or <b>c8_2b6=1</b> ]	<b>c8_2d</b>	(Number of years)

### C8.3 Loan applications

Question	Variable	Answer
Does this establishment handle loan applications in house? [SKIP: If <b>c8_3a1=1</b> go to question <b>c8_3b1</b> ]	<b>c8_3a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> ) [SKIP: If <b>c8_3a2=1</b> go to question <b>c8_3b1</b> ]	<b>c8_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c8_4a1</b> ]	<b>c8_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for handling loan applications?	Variable	Answer	
Loan officer, paper based, in the establishment	<b>c8_3b1</b>	1 = Yes 2 = No	-9 = Don't know

Mobile/Phone application plus paper based submitted to the establishment	<b>c8_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Channel partners, Loan officer, paper based	<b>c8_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Internet/Mobile phone applications (fully digital process)	<b>c8_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c8_3b5</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the method for handling loan applications used more often by this establishment?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c8_3b</b> variables]</p>	<p>Variable <b>c8_3c</b></p>	<p>Answer</p> <p>1 = Loan officer, paper based, in the establishment</p> <p>2 = Mobile/Phone application plus paper based submitted to the establishment</p> <p>3 = Channel partners, Loan officer, paper based</p> <p>4 = Internet/Mobile phone applications (fully digital process)</p> <p>5 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using internet application (plus paper-based) or mobile phone applications?</p> <p>[CONDITION: ask this question only if <b>c8_3b4=1</b>]</p>	<b>c8_3d</b>	(Number of years)

#### C8.4 Approval process of credit applications

Question	Variable	Answer
<p>Does this establishment handle the approval process of credit applications in house?</p> <p>[SKIP: If <b>c8_4a1=1</b> go to question <b>c8_4b1</b>]</p>	<b>c8_4a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same firm?</p> <p>[CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]</p> <p>[SKIP: If <b>c8_4a2=1</b> go to question <b>c8_4b1</b>]</p>	<b>c8_4a2</b>	1 = Yes. 2 = No -9 = Don't know
<p>Is this task outsourced to another firm?</p> <p>[SKIP: Go to question <b>c8_5a1</b>]</p>	<b>c8_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following approval processes of credit applications?	Variable	Answer	
Analyst decision based on papers delivered in the application	<b>c8_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Analyst decision based on digital information	<b>c8_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Automated decision mechanisms using specialized software	<b>c8_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Credit appraisal algorithm using Artificial Intelligence or Big Data Analytics	<b>c8_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c8_4b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the approval process of credit applications used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c8_4b</b> variables]	Variable <b>c8_4c</b>	Answer
		1 = Analyst decision based on papers delivered in the application 2 = Analyst decision based on digital information 3 = Automated decision mechanisms using specialized software 4 = Credit appraisal algorithm using Artificial Intelligence or Big Data Analytics 5 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using automated decision mechanisms using specialized software, big data or artificial intelligence? [CONDITION: ask this question only if <b>c8_4b3=1</b> or <b>c8_4b4=1</b> ]	<b>c8_4d</b>	(Number of years)

### C8.5 Technologies of Operational Support Area

Question	Variable	Answer
Does this establishment handle operational support area in house? [SKIP: If <b>c8_5a1=1</b> go to question <b>c8_5b1</b> ]	<b>c8_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> ) [SKIP: If <b>c8_5a2=1</b> go to question <b>c8_5b1</b> ]	<b>c8_5a2</b>	1 = Yes. 2 = No -9 = Don't know

Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c8_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable
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Question: Does this establishment use any of the following methods for handling operational support area?	Variable	Answer	
Purely rely on writing records from employees	<b>c8_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Digital accounting and document management system using PCs	<b>c8_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Digital Network (Centralized system across branches)	<b>c8_5b3</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c8_5b4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the method for handling operational support area used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c8_5b</b> variables]	Variable <b>c8_5c</b>	Answer 1 = Purely rely on writing records from employees 2 = Digital accounting and document management system using PCs 3 = Digital Network (Centralized system across branches) 4 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using digital accounting or digital network? [CONDITION: ask this question only if <b>c8_5b2==1</b> or <b>c8_5b3==1</b> ]	<b>c8_5d</b>	(Number of years)

## 9. Transportation (services)

Question: What are the main transportation services provide by this establishment?	Variable	Answer	
Passengers	<b>c9_0a1</b>	1 = Yes 2 = No	-9 = Don't know
Freight	<b>c9_0a2</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c9_0a3</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the type of the fleet used by this establishment?	Variable	Answer	
Trucks	<b>c9_0b1</b>	1 = Yes 2 = No	-9 = Don't know
Cars	<b>c9_0b2</b>	1 = Yes 2 = No	-9 = Don't know
Motorcycle	<b>c9_0b3</b>	1 = Yes 2 = No	-9 = Don't know
Others	<b>c9_0b4</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the number of vehicles used by this establishment by type of the fleet?	Variable	Answer	
Trucks	<b>c9_0b5</b>	1 = Yes 2 = No	-9 = Don't know
Cars	<b>c9_0b6</b>	1 = Yes 2 = No	-9 = Don't know
Motorcycle	<b>c9_0b7</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the number of vehicles with the following features?	Variable	Answer	
Automatic transmission	<b>c9_0b8</b>	1 = Yes 2 = No	-9 = Don't know
Hybrid or Electric	<b>c9_0b9</b>	1 = Yes 2 = No	-9 = Don't know
GPS tracking system	<b>c9_0b10</b>	1 = Yes 2 = No	-9 = Don't know

Question:	Variable	Answer	
Are there any regulations regarding the number of hours that drivers can drive uninterruptedly that applies for this establishment?	<b>c9_0c1</b>	1 = Yes 2 = No	-9 = Don't know

Are there any regulations regarding the type of vehicles allowed to be used for business purpose by this establishment?	<b>c9_0c2</b>	1 = Yes 2 = No	-9 = Don't know
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### C 9.1 Transportation Planning

Question	Variable	Answer
Does this establishment make load optimization plans in house? [SKIP: If <b>c9_1a1=1</b> go to question <b>c9_1b1</b> ]	<b>c9_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c9_1a2=1</b> go to question <b>c9_1b1</b> ]	<b>c9_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c9_2a1</b> ]	<b>c9_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following methods for transportation planning?	Variable	Answer	
Handwritten information to create load plans	<b>c9_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Information collected by electronic file share (e.g. Email or FAX to create load plans)	<b>c9_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Batch information collected by installed software to create ERP generated load plans	<b>c9_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Real time information by online software interface with ERP to create load plans	<b>c9_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c9_1b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the transportation planning software application used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c9_1b</b> variables]	Variable	Answer
	<b>c9_1c</b>	1 = Information collected by non-specialized workers to create load plans 2 = Information collected by electronic file share (e.g. Email or FAX to create load plans) 3 = Batch information collected by software installed ERP to create ERP generated load plans 4 = Real time information by online software interface with ERP to create load plans 5 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <b>batch information or real time information</b> collected by specialized software integrated with ERP to create load plans? [CONDITION: ask this question only if <b>c9_1b3=1 or c9_1b4=1</b> ]	<b>c9_1d</b>	(Number of years)

## C 9.2 Transportation Plan Execution

Question	Variable	Answer
Does this establishment execute transportation load plans? [SKIP: If <b>c9_2a1=1</b> go to question <b>c9_2b1</b> ]	<b>c9_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c9_2a2=1</b> go to question <b>c9_2b1</b> ]	<b>c9_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c9_3a1</b> ]	<b>c9_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following processes for loading tender, routing, and dispatching?	Variable	Answer	
Manual process with the support of fax, text, or phone calls	<b>c9_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Manual process with the support of digital platforms or mobile apps	<b>c9_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Execution plan exchanged via web based direct to delivery equipment for interface with Driver: GPS,- routing, tracking, Email, text	<b>c9_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Specific software interface via Internet: GPS, Dynamic routing (weather ,traffic), Elog – Driver status and safety, load monitoring	<b>c9_2b4</b>	1 = Yes 2 = No	-9 = Don't know
File exchange between ERP integrated applications and delivery equipment	<b>c9_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c9_2b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the data file exchange system used more often by this establishment?	Variable	Answer
	<b>c9_2c</b>	1 = Manual process with the support of fax, text, or phone calls

<p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c9_2b</b> variables]</p>		<p>2 = Manual process with the support of digital platforms or mobile apps  3 = Execution plan exchanged via web based direct to delivery equipment for interface with Driver: GPS,- routing, tracking, Email, text  4 = Specific software interface via Internet: GPS, Dynamic routing (weather ,traffic), Elog – Driver status and safety, load monitoring  5 = File exchange between ERP integrated applications  6 = Other  -9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using specialized software for transportation load plan execution?  [CONDITION: ask this question only if <b>c9_2b3=1</b> or <b>c9_2b4=1</b> or <b>c9_2b5=1</b>]</p>	<b>c9_2d</b>	(Number of years)

### C 9.3 Transportation Monitoring

Question	Variable	Answer
<p>Does this establishment monitor load and delivery in house?  [SKIP: If <b>c9_3a1=1</b> go to question <b>c9_3b1</b>]</p>	<b>c9_3a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same firm?  [CONDITION: Only for multi-establishment firms (<b>s4=1</b>)  [SKIP: If <b>c9_3a2=1</b> go to question <b>c9_3b1</b>]</p>	<b>c9_3a2</b>	1 = Yes 2 = No -9 = Don't know
<p>Is this task outsourced to another firm?  [SKIP: Go to question <b>c9_4a1</b>]</p>	<b>c9_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following systems for monitoring load and delivery?	Variable	Answer	
Event driven at predetermined intervals with the support of fax, text, or phone calls	<b>c9_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Event driven at predetermined intervals with the support of digital platforms or mobile apps	<b>c9_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Paper documentation exchange on daily, weekly or monthly intervals with data entry into ERP or planning system– invoice, bill of lading, regulatory, etc.	<b>c9_3b3</b>	1 = Yes 2 = No	-9 = Don't know

Information collected by software installed on the transportation equipment: GPS, E-log – Driver status, load monitoring	<b>c9_3b4</b>	1 = Yes 2 = No	-9 = Don't know
File exchange between ERP integrated applications and delivery equipment software application(s)	<b>c9_3b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c9_3b6</b>	1 = Yes 2 = No	-9 = Don't know

<p>Question: What is the transportation monitoring system used more often by this establishment?</p> <p>[CONDITION: Ask only if the answer is YES for more than one option among <b>c9_3b</b> variables]</p>	<p>Variable <b>c9_3c</b></p>	<p>Answer</p> <p>1 = Event driven at predetermined intervals with the support of fax, text, or phone calls</p> <p>2 = Event driven at predetermined intervals with the support of digital platforms or mobile apps</p> <p>3 = Paper documentation exchange on daily, weekly or monthly intervals with data entry into ERP or planning system– invoice, bill of lading, regulatory, etc.</p> <p>4 = Information collected by software installed on the transportation equipment: GPS, E-log – Driver status, load monitoring</p> <p>5 = File exchange between ERP integrated applications and delivery equipment software application(s)</p> <p>6 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years has this establishment been using a system integrated into ERP, specialized software, or batch processing of electronic data exchange for monitoring transportation?</p> <p>[CONDITION: ask this question only if <b>c9_3b3=1</b> or <b>c9_3b4=1</b> or <b>c9_3b5=1</b>]</p>	<b>c9_3d</b>	(Number of years)

### C 9.4 Transportation Performance Measurement

Question	Variable	Answer
<p>Does this establishment measure transport performance in house?</p> <p>[SKIP: If <b>c9_4a1=1</b> go to question <b>c9_4b1</b>]</p>	<b>c9_4a1</b>	1 = Yes 2 = No
<p>Is this task outsourced to another unit of the same firm?</p> <p>[CONDITION: Only for multi-establishment firms (<b>s4=1</b>)]</p> <p>[SKIP: If <b>c9_4a2=1</b> go to question <b>c9_4b1</b>]</p>	<b>c9_4a2</b>	1 = Yes 2 = No -9 = Don't know
<p>Is this task outsourced to another firm?</p> <p>[SKIP: Go to question <b>c9_5a1</b>]</p>	<b>c9_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following transport performance measurement systems?	Variable	Answer	
Manually monitored and reported	<b>c9_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Computer with non-specialized software such as Excel, Word, Power Point, or equivalent	<b>c9_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Computer or apps with specialized transportation reporting applications by service and cost performance metrics	<b>c9_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Information collected by software installed on the transportation equipment: GPS, E-log – Driver status, load monitoring	<b>c9_4b4</b>	1 = Yes 2 = No	-9 = Don't know
File exchange between ERP integrated applications and delivery equipment software application(s)	<b>c9_4b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c9_4b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the transportation performance measurement system used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c9_4b</b> variables]	Variable <b>c9_4c</b>	Answer 1 = Manually monitored and reported 2 = Computer with non-specialized software such as Excel, Word, Power Point, or equivalent 3 = Computer or apps with specialized transportation reporting applications by service and cost performance metrics 4 = Information collected by software installed on the transportation equipment: GPS, E-log – Driver status, load monitoring 5 = File exchange between ERP integrated applications and delivery equipment software application(s) 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using computer with specialized software or Apps or ERP integrated applications reporting performance metrics or fuel consumption? [CONDITION: ask this question only if <b>c9_4b3=1</b> or <b>c9_4b4=1</b> or <b>c9_4b5=1</b> ]	<b>c9_4d</b>	(Number of years)

### C 9.5 Fleet Asset Management/Maintenance – Equipment/Operator

Question	Variable	Answer
Does this establishment manage fleet assets in house? [SKIP: If <b>c9_5a1=1</b> go to question <b>c9_5b1</b> ]	<b>c9_5a1</b>	1 = Yes 2 = No

Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c9_5a2=1 go to question c9_5b1]	c9_5a2	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question D1]	c9_5a3	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following fleet management systems?	Variable	Answer	
All manual paper driven system (e.g. repair, regulatory, licensing, insurance, warranty, performance, and parts management)	c9_5b1	1 = Yes 2 = No	-9 = Don't know
Information collected by electronic file and shared through Email or FAX	c9_5b2	1 = Yes 2 = No	-9 = Don't know
Batch information collected by software installed on transportation equipment – ETM (engine monitoring) for fleet management documentation and reporting	c9_5b3	1 = Yes 2 = No	-9 = Don't know
Data exchange via Web between ERP and software installed on transportation equipment – ETM, (engine monitoring) Elog and GPS (driver monitor) for fleet management documentation and reporting	c9_5b4	1 = Yes 2 = No	-9 = Don't know
Other	c9_5b5	1 = Yes 2 = No	-9 = Don't know

Question: What is the fleet management system used more often in this facility? [CONDITION: Ask only if the answer is YES for more than one option among c9_5b variables]	Variable c9_5c	Answer
		1 = All manual paper driven system (e.g. repair, regulatory, licensing, insurance, warranty, performance, and parts management) 2 = Information collected by electronic file and shared through Email or FAX 3 = Batch information collected by software installed on transportation equipment – ETM (engine monitoring) for fleet management documentation and reporting 4 = Data exchange via Web between ERP and software installed on transportation equipment – ETM, (engine monitoring) Elog and GPS (driver monitor) for fleet management documentation and reporting 5 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using batch information collected by specialized software or real-time information by on-line software interface with ERP? [CONDITION: ask this question only if c9_5b3=1 or c9_5b4=1]	c9_5d	(Number of years)

## 10. Health services (services)

Question	Answer
How is this hospital classified in terms of level of complexity for health treatment care?	<b>c10_0</b> 1 = Level 1 : Primary Care 2 = Level 2 : Specialty Physician Care 3 = Level 3 : Acute Care General Hospital or Ambulatory Surgical Center 4 = Level 4 : Specialty Acute Care Hospital -9 = Don't know -7 = Not applicable

**OBS: This question may need to be adapted to the health system in each country.**

Question	Answer
What is the average number of patient visits per day in this establishment?	<b>c10_0a</b> Number of patients -9 = Don't know -7 = Not applicable
What is the average number of patients spending the night in this establishment per day	<b>c10_0b</b> Number of patients -9 = Don't know -7 = Not applicable
How many full-time doctors work in this establishment?	<b>c10_0c</b> Number of full-time doctors -9 = Don't know -7 = Not applicable
How many of full-time nurses work in this establishment?	<b>c10_0d</b> Number of full-time nurses -9 = Don't know -7 = Not applicable

### C 10.1 Infrastructure and machines available

Infrastructure/Technology	Is this infrastructure or equipment available in this establishment? 1= Yes 0= No -9 = Don't know -7 = Not applicable	What is the number of equipment in "workable" conditions available?  [CONDITION: IF these infrastructures or equipment are available.]
Emergency department	<b>c10_1a1</b>	<b>c10_1b1</b> Number of beds
Postoperative care area	<b>c10_1a2</b>	<b>c10_1b2</b> Number of beds
Intensive Care Unit	<b>c10_1a3</b>	<b>c10_1b3</b>

		Number of beds
Pretested blood available (blood bank)	<b>c10_1a4</b>	<b>c10_1b4</b> Number of tests per day
Lab to test blood and urine	<b>c10_1a5</b>	<b>c10_1b5</b> Number of tests per day
Functioning X-ray machine	<b>c10_1a6</b>	<b>c10_1b6</b> Number of machines
Functioning ultrasound machine	<b>c10_1a7</b>	<b>c10_1b7</b> Number of machines
Functioning Computerized Tomography CT scan	<b>c10_1a8</b>	<b>c10_1b8</b> Number of machines
Functioning MRI machine	<b>c10_1a9</b>	<b>c10_1b9</b> Number of machines
Functioning ultrasound machine?	<b>c10_1a10</b>	<b>c10_1b10</b> Number of machines
Pulse oximetry	<b>c10_1a11</b>	<b>c10_1b11</b> Number of machines
Electrocardiogram (ECG)	<b>c10_1a12</b>	<b>c10_1b12</b> Number of machines

### C 10.2 Scheduling appointments (for clinics)

Question	Variable	Answer
Does this establishment schedule appointments? [SKIP: If <b>c10_2a1=1</b> go to question <b>c10_2b1</b> ]	<b>c10_2a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c10_2a2=1</b> go to question <b>c10_2b1</b> ]	<b>c10_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c10_3a1</b> ]	<b>c10_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following scheduling systems?	Variable	Answer	
Personal visit and paper	<b>c10_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Phone call, SMS, or Email	<b>c10_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Specialized software or mobile app for appointment WITHOUT automated reminders	<b>c10_2b3</b>	1 = Yes 2 = No	-9 = Don't know

Specialized software or mobile app for appointment WITH automated reminders and confirmation	<b>c10_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c10_2b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the scheduling system used more often in these facilities? [CONDITION: Ask only if the answer is YES for more than one option among <b>c10_2b</b> variables]	Variable <b>c10_2c</b>	Answer 1 = Personal visit and paper 2 = Phone call, SMS, or Email 3 = Specialized software or mobile app for appointment WITHOUT automated reminders 4 = Specialized software or mobile app for appointment WITH automated reminders and confirmation 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been scheduling appointments with specialized software, webpage, or mobile app? [CONDITION: ask this question only if <b>c10_2b3=1</b> or <b>c10_2b4=1</b> ]	<b>c10_2d</b>	(Number of years)

### C 10.3 Management of Patient Records (Physician's note)

Question	Variable	Answer
Does this establishment handle patient records in house? [SKIP: If <b>c10_3a1=1</b> go to question <b>c10_3b1</b> ]	<b>c10_3a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c10_3a2=1</b> go to question <b>c10_3b1</b> ]	<b>c10_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c10_4a1</b> ]	<b>c10_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following patient record keeping systems?	Variable	Answer
Handwritten process	<b>c10_3b1</b>	1 = Yes 2 = No -9 = Don't know
Digital patient records using standard software, such as Excel and Word	<b>c10_3b2</b>	1 = Yes 2 = No -9 = Don't know

Electronic Health Records (EHR) with specialized software	<b>c10_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Cloud-based Electronic Health Records (EHR) integrated to analytical and management tools	<b>c10_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c10_3b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the patient record keeping system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c10_3b</b> variables]	Variable <b>c10_3c</b>	Answer 1 = Handwritten process 2 = Digital patient records using standard software, such as Excel and Word 3 = Electronic Health Records (EHR) with specialized software 4 = Cloud-based Electronic Health Records (EHR) integrated to analytical and management tools 5 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using <b>electronic health records</b> ? [CONDITION: ask this question only if <b>c10_3b3=1</b> or <b>c10_3b4=1</b> ]	<b>c10_3d</b>	(Number of years)

### C 10.4 Medication management and administration

Question	Variable	Answer
Does this establishment have a pharmacy to provide medication for patients in-house? [SKIP: If <b>c10_4a1=1</b> go to question <b>c10_4b1</b> ]	<b>c10_4a1</b>	1 = Yes 2 = No

Question: What of the following options better describe the way this establishment handle:	Variable	Answer
The stock of medication in the (internal) pharmacy	<b>c10_4b1</b>	1 = Manual accounting 2 = Electronic system accounting with manual order to suppliers 3 = Electronic system accounting with automated order to suppliers -9 = Don't know (SPONTANEOUS) -7 = Not applicable (SPONTANEOUS)
The order of medication to patients by physicians	<b>c10_4b2</b>	1 = Manual order 2 = Electronic order -9 = Don't know (SPONTANEOUS) -7 = Not applicable (SPONTANEOUS)

Question: Does this establishment use any of the following medication management and administration systems?	Variable	Answer	
Handwritten monitoring administration of medicine	<b>c10_4c1</b>	1 = Yes 2 = No	-9 = Don't know
Barcode or electronic identification for medicine administration to patients	<b>c10_4c2</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c10_4c3</b>	1 = Yes 2 = No	-9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <a href="#">barcode identification for medicine administration to patients?</a> [CONDITION: ask this question only if <b>c10_4c2=1</b> ]	<b>c10_4d</b>	(Number of years)

### C 10.5 Procedures (Sepsis, Childbirth, Trauma, and Strokes)

Question: What is the availability of the following sepsis treatment in this establishment?	Variable	Answer
Treatment with antibiotics	<b>c10_5a1</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable
Treatment with advanced therapies, such as resuscitation, mechanical ventilation, glucose control, and renal control	<b>c10_5a2</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable

Question: What is the availability of the following childbirth procedures in this establishment?	Variable	Answer
Cesarean Section	<b>c10_5b1</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable
High-risk labor	<b>c10_5b2</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable

Question: What is the availability of the following procedures related to trauma in this establishment?	Variable	Answer
Traction (closed fracture)	<b>c10_5c1</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable
Open Treatment of Fracture	<b>c10_5c2</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable

Question: What is the availability of the following procedures related to <b>Myocardial infarction/Strokes</b> in this establishment?	Variable	Answer
Defibrillation	<b>c10_5d1</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable
Coronary Angiography or Multivessel coronary revascularization	<b>c10_5d2</b>	1 = It is always available. 2 = It is NOT always available. 3 = It is NEVER available. -9 = Don't know -7 = Not applicable

## 11. Footwear and Leather goods (manufacturing)

Question: What of the following material does this establishment use to start production?	Variable	Answer	
Finished natural Leather	<b>c11_01a</b>	1 = Yes 2 = No	-9 = Don't know
Man-made leather/ Synthetic	<b>c11_01b</b>	1 = Yes 2 = No	-9 = Don't know
Textile (i.e, Mesh/ engineering mesh/ canvas etc)	<b>c11_01c</b>	1 = Yes 2 = No	-9 = Don't know
Synthetic + Textile (mix-components man made)	<b>c11_01d</b>	1 = Yes 2 = No	-9 = Don't know
Synthetic + Textile + Leather (mix components-natural and man-made)	<b>c11_01e</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c11_01f</b>	1 = Yes 2 = No	-9 = Don't know

Question: What of the following footwear/ Leather goods is produced by this establishment?	Variable	Answer	
Basic (i.e: Footwear> oxford/ derby/ moccasin etc/ wallet/ carry bags etc)	<b>c11_02a</b>	1 = Yes 2 = No	-9 = Don't know
Fashion (fashion shoe, fashion accessories/ sling bag, vanity bag etc.)	<b>c11_02b</b>	1 = Yes 2 = No	-9 = Don't know
Sports or specific purpose (travel bags, sports bags, summer sandal, running shoe, hiking shoe, water sports shoe etc)	<b>c11_02c</b>	1 = Yes 2 = No	-9 = Don't know
Protective shoes (industrial use)	<b>c11_02d</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c11_02e</b>	1 = Yes 2 = No	-9 = Don't know

Question: What of the following finishes are available in this establishment?	Variable	Answer	
Screen print/ heat transfer	<b>c11_03a</b>	1 = Yes 2 = No	-9 = Don't know
Embroidery	<b>c11_03b</b>	1 = Yes 2 = No	-9 = Don't know
Seamless (no stitch)	<b>c11_03c</b>	1 = Yes 2 = No	-9 = Don't know
Ink or Wax Polishing	<b>c11_03d</b>	1 = Yes 2 = No	-9 = Don't know
Waterproofing	<b>c11_03e</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c11_03f</b>	1 = Yes 2 = No	-9 = Don't know

## C11.1 Design

Do clients provide files for design to this establishment? [SKIP: If <b>c11_1a1=2</b> go to question <b>c11_1a3</b> ]	<b>c11_1a1</b>	1 = Yes 2 = No
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Question: What is the most common file provided by clients for design?	Variable <b>c11_1a2</b>	Answer 1 = Graded file of all sizes ready to cut 2 = A prototype cutting file for grading 3 = Hand drawing of the design 4 = Computer drawing of the design 5 = 3D file of the design 6 = Other -9 = Don't know
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Question	Variable	Answer
Does this establishment do design in house? [SKIP: If <b>c11_1a3=1</b> go to question <b>c11_1b1</b> ]	<b>c11_1a3</b>	1 = Yes 2 = No -7 = Not applicable
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c11_1a4=1</b> go to question <b>c11_1b1</b> ]	<b>c11_1a4</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c11_2a1</b> ]	<b>c11_1a5</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following design drawing processes?	Variable	Answer
Manual design and hand drawing	<b>c11_1b1</b>	1 = Yes 2 = No -9 = Don't know
Digital or semi-digital design using specialized 2D drawing software	<b>c11_1b2</b>	1 = Yes 2 = No -9 = Don't know
Computer Aided Design (CAD), 3D design, virtual prototyping	<b>c11_1b3</b>	1 = Yes 2 = No -9 = Don't know
Other	<b>c11_1b4</b>	1 = Yes 2 = No -9 = Don't know

Question: What is the most used design drawing process by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c11_1b</b> variables]	Variable <b>c11_1c</b>	Answer 1 = Manual design and hand drawing 2 = Digital or semi-digital design using specialized 2D drawing software 3 = Computer Aided Design (CAD), 3D design, virtual prototyping -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using specialized software, 3D design, or virtual prototyping? [CONDITION: ask this question only if c11_1b2=1 or c11_1b3=1]	<b>c11_1d</b>	(Number of years)

## C11.2 Cutting

Question	Variable	Answer
Does this establishment handle cutting process in house? [SKIP: If c11_2a1=1 go to question c11_2b1]	<b>c11_2a1</b>	1 = Yes. 2 = No -7 = Not applicable
Is this task outsourced another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c11_2a2=1 go to question c11_2b1]	<b>c11_2a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c11_3a1]	<b>c11_2a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following cutting methods?	Variable	Answer	
Manual cutting	<b>c11_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Cutting machine manually operated	<b>c11_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Semi-Automatic cutting machine (straight knife, round knife, die cutting machine)	<b>c11_2b3</b>	1 = Yes 2 = No	-9 = Don't know
Automatic or Computerized cutting machine (no Laser: water jet, knife, other)	<b>c11_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Automatic/Computerized cutting machine (Laser)	<b>c11_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c11_2b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the most used cutting method in this facility? [CONDITION: Ask only if the answer is YES for more than one option among c11_2b variables]	Variable	Answer
	<b>c11_2c</b>	1 = Manual cutting 2 = Cutting machine manually operated 3 = Semi-Automatic cutting machine (straight knife, round knife, die cutting machine) 4 = Automatic or Computerized cutting machine (no Laser: water jet, knife, other) 5 = Automatic/Computerized cutting machine (Laser) 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using automatic cutting machines and lasers? [CONDITION: ask this question only if c11_2b4=1 or c11_2b5=1]	c11_2d	(Number of years)

### C11.3 Sewing and Joining Parts

Question	Variable	Answer
Does this establishment handle sewing process in house? [SKIP: If c11_3a1=1 go to question c11_3b1]	c11_3a1	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms (s4=1)] [SKIP: If c11_3a2=1 go to question c11_3b1]	c11_3a2	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question c11_4a1]	c11_3a3	1 = Yes. 2 = No -9 = Don't know -7 = Not applicable

Question: What sewing method is used by this establishment?	Variable	Answer	
Manually sewing	c11_3b1	1 = Yes 2 = No	-9 = Don't know
Machine sewing manually operated	c11_3b2	1 = Yes 2 = No	-9 = Don't know
Semi-automated sewing machines	c11_3b3	1 = Yes 2 = No	-9 = Don't know
Automated sewing machines	c11_3b4	1 = Yes 2 = No	-9 = Don't know
3D Knitting	c11_3b5	1 = Yes 2 = No	-9 = Don't know
Other (non-sewing/ seamless)	c11_3b6	1 = Yes 2 = No	-9 = Don't know

Question: What is the most used sewing method in this facility? [CONDITION: Ask only if the answer is YES for more than one option among c11_3b variables]	Variable	Answer
	c11_3c	1 = Manually sewing 2 = Machine sewing manually operated 3 = Semi-automated sewing machines 4 = Automated sewing machines 5 = 3D Knitting machines 3D 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using semi-automated sewing machines or automated sewing machines or 3D knitting? [CONDITION: ask this question only if <b>c11_3b3=1</b> or <b>c11_3b4=1</b> or <b>c11_3b5=1</b> ]	<b>c11_3d</b>	(Number of years)

#### C11.4 Assembly – Finishing

Question	Variable	Answer
Does this establishment handle assembly and finishing process in house? [SKIP: If <b>c11_4a1=1</b> go to question <b>c11_4b1</b> ]	<b>c11_4a1</b>	1 = Yes. 2 = No
Is this task outsourced another to unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c11_4a2=1</b> go to question <b>c11_4b1</b> ]	<b>c11_4a2</b>	1 = Yes. 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>D1</b> ]	<b>c11_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: What assembly and finishing method is used by this establishment?	Variable	Answer	
Manual one station-based finishing and assembly method	<b>c11_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Conveyor based finishing and assembly method (Static/semi-automated conveyor system)	<b>c11_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Conveyor based finishing and assembly method (Dynamic/automated conveyor system)	<b>c11_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Injection machine & finishing line- DIP	<b>c11_4b4</b>	1 = Yes 2 = No	-9 = Don't know
3D printing / assembly	<b>c11_4b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c11_4b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the most used assembly and finishing method in this facility? [CONDITION: Ask only if the answer is YES for more than one option among <b>c11_4b</b> variables]	Variable	Answer
	<b>c11_4c</b>	1 = Manual one station-based finishing and assembly method 2 = Conveyor based finishing and assembly method (Static/semi-automated conveyor system)

		<p>3 = Conveyor based finishing and assembly method (Dynamic/automated conveyor system)</p> <p>4 = Injection machine &amp; finishing line- DIP (industry 3.0 fully or partially)</p> <p>5 = 3D printing / assembly 3D</p> <p>5 = Other</p> <p>-9 = Don't know</p>
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Question	Variable	Answer
<p>For how many years this establishment has been using dynamic/automated conveyor-based finishing and assembly method, injection machine &amp; finishing line, or 3D/printing/assembly?</p> <p>[CONDITION: ask this question only if <b>c11_4b3=1</b> or <b>c11_4b4=1</b> or <b>c11_4b5=1</b>]</p>	<b>c11_4d</b>	(Number of years)

## 12. Accommodation (services)

Question	Variable	Answer
How is this accommodation classified based on its accreditation from the Department of Tourism?	<b>c12_0</b>	1 = Hotel: Luxury (De Luxe or First Class) 2 = Hotel: Standard or budget (Standard or Economy Class) 3 = Resort: Luxury (AAA) 4 = Resort: Standard or budget (AA, A, or Special Interest) 5 = Apart-hotel/Pension house/bed & breakfast 6 = Motel -9 = Don't know -7 = Not applicable
What is the total number of (accommodation) rooms available in this establishments?	<b>c12_0a</b>	Number -9 = Don't know
What is the maximum capacity of guests in this establishments?	<b>c12_0b</b>	Number -9 = Don't know

Question: What is the total number of (accommodation) rooms with the following features?	Variable	Answer
Internet connectivity to guests	<b>c12_0c</b>	Number -9 = Don't know
Air condition	<b>c12_0d</b>	Number -9 = Don't know
TV	<b>c12_0e</b>	Number -9 = Don't know
Cable Channels	<b>c12_0f</b>	Number -9 = Don't know
Minibar/refrigerator	<b>c12_0g</b>	Number -9 = Don't know
Coffee maker	<b>c12_0h</b>	Number -9 = Don't know
Telephone	<b>c12_0i</b>	- Number -9 = Don't know
Hairdryer	<b>c12_0j</b>	Number -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using offering Internet connectivity to guests? [CONDITION: ask this question only if C12_0c>1]	<b>c12_1k</b>	(Number of years)

### C12.1 Reservations/Bookings/Room Inventory

Question	Variable	Answer
Does this establishment handle reservations/bookings in house? [SKIP: If <b>c12_1a1=1</b> go to question <b>c12_1b1</b> ]	<b>c12_1a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c12_1a2=1</b> go to question <b>c12_1b1</b> ]	<b>c12_1a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? SKIP: Go to question <b>c12_1a4</b> ]	<b>c12_1a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following systems to handle reservations/bookings?	Variable	Answer	
Handwritten process	<b>c12_1b1</b>	1 = Yes 2 = No	-9 = Don't know
Digital reservation records using standard software, such as Excel and Word	<b>c12_1b2</b>	1 = Yes 2 = No	-9 = Don't know
Dedicated reservation/booking specialized software	<b>c12_1b3</b>	1 = Yes 2 = No	-9 = Don't know
Property management software (PMS)	<b>c12_1b4</b>	1 = Yes 2 = No	-9 = Don't know
Cloud-based systems integrated to analytical and management tools	<b>c12_1b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c12_1b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the booking management system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c12_1b</b> variables]	Variable	Answer
	<b>c12_1c</b>	1 = Handwritten process 2 = Digital reservation records using standard software, such as Excel and Word 3 = Dedicated reservation/booking management specialized software 4 = Property management system (PMS) 5 = Cloud-based systems integrated to analytical and management tools 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using electronic reservation/booking systems? [CONDITION: ask this question only if <b>c12_1b3=1</b> or <b>c12_1b4=1</b> or <b>c12_1b5=1</b> ]	<b>c12_1d</b>	(Number of years)

Question:	Variable	Answer	
Does this establishment use any <b>online travel agency</b> for booking (e.g. Booking, Trip Advisor, Agoda, Expedia)? [SKIP: If <b>c12_1a4=2</b> go to question <b>c12_2a1</b> ]	<b>c12_1e1</b>	1 = Yes 2 = No	-9 = Don't know
What is the share of booking through online travel agency?	<b>c12_1e2</b>	Share	-9 = Don't know
What is the online travel agency most used by this establishment for booking?	<b>c12_1e3</b>	Name of OTA -9 = Don't know	
What of the following online travel agencies are used by this establishment for booking? (Please select all that apply)	<b>c12_1e4</b> 1 = Booking.com 2= Trip Advisor 3= Expedia 4=AirBnB 5= Others -9 = Don't know -7 = Does not apply		
Please describe what online travel agencies are used by this establishment for booking? [CONDITION: Ask only if <b>c12_1e4=5</b> ]	<b>c12_1e5</b> Name		

## C 12.2 Pricing

Question	Variable	Answer	
Does this establishment decide the pricing strategies in house? [SKIP: If <b>c12_2a1=1</b> go to question <b>c12_2b1</b> ]	<b>c12_2a1</b>	1 = Yes 2 = No	
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c12_2a2=1</b> go to question <b>c12_2b1</b> ]	<b>c12_2a2</b>	1 = Yes 2 = No	-9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c12_3a1</b> ]	<b>c12_2a3</b>	1 = Yes 2 = No	-9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following pricing strategies?	Variable	Answer	
Manual Cost	<b>c12_2b1</b>	1 = Yes 2 = No	-9 = Don't know
Automated markup (excel or similar)	<b>c12_2b2</b>	1 = Yes 2 = No	-9 = Don't know
Automated promotional (e.g. planning prices based on seasonality or other predictable events)	<b>c12_2b3</b>	1 = Yes 2 = No	-9 = Don't know

Dynamic pricing systems (using specific software to predict demand and adjust prices)	<b>c12_2b4</b>	1 = Yes 2 = No	-9 = Don't know
Personalized pricing driven by predictive analytics (e.g. data mining, machine learning)	<b>c12_2b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c12_2b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the pricing strategy used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c12_2b</b> variables]	Variable <b>c12_2c</b>	Answer 1 = Manual Cost 2 = Automated markup (excel or similar) 3 = Automated promotional (e.g. planning prices based on seasonality or other predictable events) 4 = Dynamic pricing systems (using specific software to predict demand and adjust prices) 5 = Personalized pricing (e.g. data mining, machine learning) 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using <b>dynamic pricing systems</b> or <b>personalized pricing</b> for pricing strategies? [CONDITION: ask this question only if <b>c12_2b4=1</b> or <b>c12_2b5=1</b> ]	<b>c12_2d</b>	(Number of years)

Is there any significant regulation that limits price mechanism decision of this establishment?	<b>c12_2da</b>	1 = Yes 2 = No -9 = Don't know
What is the agency regulating the price mechanism for this establishment?	<b>c12_2db</b>	Name of the agency

### C12.3 Housekeeping system

Question	Variable	Answer
Does this establishment handle housekeeping in house? [SKIP: If <b>c12_3a1=1</b> go to question <b>c12_3b1</b> ]	<b>c12_3a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> ) [SKIP: If <b>c12_3a2=1</b> go to question <b>c12_4a1</b> ]	<b>c12_3a2</b>	1 = Yes 2 = No -9 = Don't know
Is this task outsourced to another firm? [SKIP: Go to question <b>c12_4a1</b> ]	<b>c12_3a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable

Question: Does this establishment use any of the following housekeeping systems?	Variable	Answer	
Handwritten process	<b>c12_3b1</b>	1 = Yes 2 = No	-9 = Don't know
Digital room records using standard software, such as Excel and Word	<b>c12_3b2</b>	1 = Yes 2 = No	-9 = Don't know
Dedicated housekeeping management specialized software	<b>c12_3b3</b>	1 = Yes 2 = No	-9 = Don't know
Property management system (PMS) software	<b>c12_3b4</b>	1 = Yes 2 = No	-9 = Don't know
Cloud-based systems integrated to analytical and management tools	<b>c12_3b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c12_3b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the housekeeping system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c12_3b</b> variables]	Variable <b>c12_3c</b>	Answer
		1 = Handwritten process 2 = Digital room records using standard software, such as Excel and Word 3 = Dedicated housekeeping management specialized software 4 = Property management system (PMS) software 5 = Cloud-based systems integrated to analytical and management tools 6 = Other -9 = Don't know

Question	Variable	Answer
For how many years has this establishment been using <b>electronic housekeeping systems</b> ? [CONDITION: ask this question only if <b>c12_3b3=1</b> or <b>c12_3b4=1</b> or <b>c12_3b5=1</b> ]	<b>c12_3d</b>	(Number of years)

Question	Variable	Answer	
Does this establishment use vacuum cleaner for cleaning the rooms?	<b>c12_3e1</b>	1 = Yes 2 = No	-9 = Don't know
How many vacuum cleaners are used by this establishment for cleaning the rooms?	<b>c12_3e2</b>	Number	-9 = Don't know

#### C12.4 Laundry

Question	Variable	Answer
Does this establishment handle laundry in house? [SKIP: If <b>c12_4a1=1</b> go to question <b>c12_4b1</b> ]	<b>c12_4a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c12_4a2=1</b> go to question <b>c12_4a1</b> ]	<b>c12_4a2</b>	1 = Yes 2 = No -9 = Don't know

Is this task outsourced to another firm? [SKIP: Go to question <b>c12_5a1</b> ]	<b>c12_4a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable
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Question: Does this establishment use any of the following methods for bed sheet and towel laundry?	Variable	Answer	
Manual	<b>c12_4b1</b>	1 = Yes 2 = No	-9 = Don't know
Domestic washing machines	<b>c12_4b2</b>	1 = Yes 2 = No	-9 = Don't know
Industrial washing machines without automatic bed sheet folding	<b>c12_4b3</b>	1 = Yes 2 = No	-9 = Don't know
Industrial washing machines with automatic bed sheet folding	<b>c12_4b4</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c12_4b5</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the laundry system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c12_5b</b> variables]	Variable <b>c12_4c</b>	Answer 1 = Manual 2 = Domestic washing machines 3 = Industrial washing machines without automatic bed sheet folding 4 = Industrial washing machines with automatic bed sheet folding 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years this establishment has been using Industrial washing machines with automatic bed sheet folding? [CONDITION: ask this question only if <b>c12_4c=1</b> ]	<b>c12_4d</b>	(Number of years)

### C12.5 Point of Sales

Question	Variable	Answer
Does this establishment offer food and beverage services in addition to breakfast (e.g. restaurants and bars) in house? [SKIP: If <b>c12_5a1=1</b> go to question <b>c12_5b1</b> ]	<b>c12_5a1</b>	1 = Yes 2 = No
Is this task outsourced to another unit of the same firm? [CONDITION: Only for multi-establishment firms ( <b>s4=1</b> )] [SKIP: If <b>c12_5a2=1</b> go to question <b>c12_5a1</b> ]	<b>c12_5a2</b>	1 = Yes 2 = No -9 = Don't know

Is this task outsourced to another firm? [SKIP: Go to question <b>d1a</b> ]	<b>c12_5a3</b>	1 = Yes 2 = No -9 = Don't know -7 = Not applicable
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Question: Does this establishment use any of the following management systems to handle different points of sales?	Variable	Answer	
Handwritten process	<b>c12_5b1</b>	1 = Yes 2 = No	-9 = Don't know
Digital customer records using standard software, such as Excel and Word	<b>c12_5b2</b>	1 = Yes 2 = No	-9 = Don't know
Point of Sales (POS) specialized software.	<b>c12_5b3</b>	1 = Yes 2 = No	-9 = Don't know
POS with PMS integration	<b>c12_5b4</b>	1 = Yes 2 = No	-9 = Don't know
Cloud-based systems integrated to analytical and management tools	<b>c12_5b5</b>	1 = Yes 2 = No	-9 = Don't know
Other	<b>c12_5b6</b>	1 = Yes 2 = No	-9 = Don't know

Question: What is the point of sales system used more often by this establishment? [CONDITION: Ask only if the answer is YES for more than one option among <b>c12_5b</b> variables]	Variable <b>c12_5c</b>	Answer 1 = Handwritten process 2 = Digital customer records using standard software, such as Excel and Word 3 = Point of Sales (POS) specialized software. 4 = POS with PMS Integration 5 = Cloud-based systems integrated to analytical and management tools 6 = Other -9 = Don't know
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Question	Variable	Answer
For how many years has this establishment been using electronic post of sales systems? [CONDITION: ask this question only if <b>c12_5b3=1</b> or <b>c12_5b4=1</b> or <b>c12_5b5=1</b> ]	<b>c12_5d</b>	(Number of years)

**INSTRUCTION: PLEASE ADD THIS QUESTION AT THE END OF THE INTERVIEW**

INTERVIEWER: PLEASE COMPLETE THESE QUESTIONS AFTER YOU FINALIZE THE INTERVIEW AND BEFORE YOU SUBMIT IT TO SUPERVISOR. PLEASE USE INFORMATION PUBLICLY AVAILABLE FROM THE INTERNET.

Question: For each online travel agency used by this establishment, please add the costumer review and rate (review score) [CONDITION: ask this question only if c12_1a4=1]	Number of reviews	Reviews rate
Booking.com	<p><b>c12_6a1</b> Number -9 = Don't know -7 = Does not apply</p>	<p><b>c12_6a2</b> Rate -9 = Don't know -7 = Does not apply</p>
Trip Advisor	<p><b>c12_6b1</b> Number -9 = Don't know -7 = Does not apply</p>	<p><b>c12_6b2</b> Number -9 = Don't know -7 = Does not apply</p>
Expedia	<p><b>c12_6c1</b> Number -9 = Don't know -7 = Does not apply</p>	<p><b>c12_6c2</b> Number -9 = Don't know -7 = Does not apply</p>
AirBnB	<p><b>c12_6d1</b> Number -9 = Don't know -7 = Does not apply</p>	<p><b>c12_6d2</b> Number -9 = Don't know -7 = Does not apply</p>