

## Codebook

### Burkina Faso Firm-level Adoption of Technology (FAT) Survey

Variable Name	Variable Label	Answer Label	Answer Code	Variable Type
firm_id	Firm ID	Open ended		Numeric
firmid	Firm ID	Open ended		long
country	Country	Open ended		String
survey_year	Survey Year	Open ended		String
base_wt	Sampling Weight	Open ended		Numeric
formality	Formal Sector	Open ended		Numeric
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
s1a	Sampling sector	Open ended		String
s1b	Sampling size	Open ended		String
s1c	Sampling location	Open ended		String
s2f	Country	Open ended		String
s3a	Formal Registration	Open ended		double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
s4	Multi-Establishment	Open ended		double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
s7	Screener employment size	Open ended		double
ref_year1	Reference Year 1	Open ended		String
ref_year2	Reference Year 2	Open ended		String
a3a	Private domestic ownership %	Open ended		double
		Don't Know	-9	
		Not Applicable	-7	
a3b	Private foreign ownership %	Open ended		double
		Don't Know	-9	
		Not Applicable	-7	

a3c	Government or state ownership %			double
		Don't Know	-9	
		Not Applicable	-7	
a4b	Founder - Ownership			double
		Don't know	-9	
		Not applicable	-7	
		Founder	1	
		Founder's family	2	
		No	3	
a4e	Female Owner			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
a5a	Sector - group			double
		Agriculture	1	
		Livestock	2	
		Food Processing	3	
		Wearing apparel	4	
		Motor vehicles	5	
		Pharmaceuticals	6	
		Wholesale or retail	7	
		Financial services	8	
		Land transport	9	
		Health services	10	
		Leather goods	11	
		Accommodation	12	
		Bricks	13	
		Cement	14	
		Iron and Steel	15	
		Other manufacturing	101	

		Other services	102	
a6	Year of beginning operations			double
		Don't Know	-9	
		Not Applicable	-7	
a7a	Top Manager - Experience Same Sector			double
		Don't Know	-9	
		Not Applicable	-7	
a7b	Top Manager - Female			double
		Don't Know	-9	
		Not Applicable	-7	
a7c	Top Manager - Highest Education	Yes	1	
		No	2	double
		Don't know	-9	
		Primary school	1	
		Secondary school	2	
		Complete high-school	3	
		College degree	4	
		Post-Graduation (MBA, Master or PhD)	5	
		Vocational training	6	
a7d	Top Manager - Studied Abroad			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b10a	Supply Mgt. - MOST used method			double
		Suppliers - manual search	1	

		Suppliers - management of supply chain info	2	
		Suppliers - online social media	3	
		Suppliers - SRM (not integrated w prod planning)	4	
		Suppliers - SRM (integrated w prod planning)	5	
		Suppliers - other	6	
b10b	Searching employees - Procedure			double
		Don't know	-9	
		Direct reference	1	
		Job search announcements (newspapers and magazines)	2	
		Job search online networks	3	
		Job search announcements (own website)	4	
		Recruitment agencies	5	
		Other	6	
b11a1	Marketing - Face to Face Chat			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

b11a2	Marketing - Online Chat	Don't Know Not Applicable  Yes No	-9 -7  1 2	double
b11a3	Marketing - Structured Surveys	Don't Know Not Applicable  Yes No	-9 -7  1 2	double
b11a4	Marketing - CRM	Don't Know Not Applicable  Yes No	-9 -7  1 2	double
b11a5	Marketing - Big Data Analytics	Don't Know Not Applicable  Yes No	-9 -7  1 2	double
b11a6	Marketing - Other	Don't Know Not Applicable  Yes No	-9 -7  1 2	Numeric
b11b	Marketing - MOST used method	Marketing - Face to Face Chat Marketing - Online Chat Marketing - Structured Surveys Marketing - CRM Marketing - Big Data Analytics	1 2 3 4 5	double

		Marketing -	6	
		Other		
b12a1	Fabrication - Manual		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a2	Fabrication - Machines w/o computer		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a3	Fabrication - Computer		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a4	Fabrication - Robots		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a5	Fabrication - Additive manufacturing		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a6	Fabrication - Other Adv. Processes		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b12a7	Fabrication - Other		double	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

b12b	Fabrication - MOST used method	Fabrication - Manual	1	double
		Fabrication - Machines w/o computer	2	
		Fabrication - Computer	3	
		Fabrication - Robots	4	
		Fabrication - Additive manufacturing	5	
		Fabrication - Other Adv. Processes	6	
		Fabrication - Other	7	
b12c	Years using b12a3, b12a4, b12a5, b12a6	Don't Know	-9	double
		Not Applicable	-7	
b13a	Direct sale	Don't Know	-9	double
		Not Applicable	-7	
b13b1	Sales - Establishment Premises	Yes	1	double
		No	2	
		Don't Know	-9	
b13b2	Sales - Phone, email or sales representatives	Not Applicable	-7	double
		Yes	1	
		No	2	
b13b3	Sales - Social media platforms/apps	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b13b4	Sales - Online Sales (ext. dig. platforms)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b13b5	Sales - Online Sales (own website)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b13b6	Sales - Electronic orders			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b13c	Sales - MOST used method			double
		Sales - Establishment Premises	1	
		Sales - Phone, email or sales representatives	2	
		Sales - Social media platforms/apps	3	
		Sales - Online Sales (ext. dig. platforms)	4	
		Sales - Online Sales (own website)	5	

		Sales - Electronic orders	6	
b13d	Years using b12b4, b13b5, b13b6	Sales - Other	7	double
		Don't Know	-9	
		Not Applicable	-7	
b13e1	Sales share (%) - online (ext. dig.)			double
		Don't Know	-9	
		Not Applicable	-7	
b13e2	Sales share (%) - online (own website)			double
		Don't Know	-9	
		Not Applicable	-7	
b13e3	Sales share (%) - electronic orders			double
		Don't Know	-9	
		Not Applicable	-7	
b14a1	Payment - goods exchange			double
		Don't Know	-9	
		Not Applicable	-7	
b14a2	Payment - cash	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b14a3	Payment - Cheque, voucher, bank wire	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b14a4	Payment - Cards	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
b14a5	Payment - Online/electronic			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b14a6	Payment - Online (platforms)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b14a7	Payment - Cryptocurrency			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b14b	Payment - MOST used method			double
		Payment - goods exchange	1	
		Payment - cash	2	
		Payment - Cheque, voucher, bank wire	3	
		Payment - Cards	4	
		Payment - Online/electronic	5	
		Payment - Online (platforms)	6	
		Payment - Cryptocurrency	7	

		Payment -	8	
		Other		
b14c	Years using b14a5, b14a6			double
		Don't Know	-9	
		Not Applicable	-7	
b15a1	Quality Control - Manual, Visual or Written			double
		Don't Know	-9	
		Not Applicable	-7	
b15a2	Quality Control - Human Inspection	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b15a3	Quality Control - Statistical Control	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b15a4	Quality Control - Automated	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b15b	Quality Control - MOST used method	Yes	1	
		No	2	double
		Quality Control - Manual, Visual or Written	1	
		Quality Control - Human Inspection	2	

		Quality Control - Statistical Control	3	
		Quality Control - Automated	4	
		Quality Control - Other	5	
b1a	Electrical Connection			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b1b	Power Outages - Year			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b1c	Power Outages - Monthly			double
		Don't Know	-9	
		Not Applicable	-7	
b1d	Length of power outages- hours			double
		Don't Know	-9	
		Not Applicable	-7	
b2a	Own/Share Generator			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b2c	Main source of energy			double
		Don't know	-9	
		Solar power	1	
		Fuel	2	
		Grid or Battery- stored backup	3	
		Wind power	4	
		Other	5	

b3a	No. of telephone lines	Gas	6	double
		Don't Know	-9	
		Not Applicable	-7	
b3b	No. of mobile lines	Don't Know	-9	double
		Not Applicable	-7	
b4a	No. of Desktop or Laptops	Don't Know	-9	double
		Not Applicable	-7	
b4b	No. of Tablets or Smartphones	Don't Know	-9	double
		Not Applicable	-7	
b5a	Internet connection	Don't Know	-9	double
		Not Applicable	-7	
b5b	Fastest Internet Connection	Yes	1	double
		No	2	
b5c	No. of internet service downs	Don't know	-9	double
		Dial up	1	
		DSL or Fiber	2	
		Wireless or Satellite	3	
		BPL	4	
		Other	5	
b5d	Length of the Internet service down-hours	Open ended		double
		Don't Know	-9	
		Not Applicable	-7	
b5e	Length of the Internet service down-minutes	Don't Know	-9	double
		Not Applicable	-7	
b5f	Own Website			double

		Don't Know	-9	
		Not Applicable	-7	
b5g	Online Social Media	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
b5h	Cloud Computer Services	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
b6a	Water Connection	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
b7a	Production compared to other firms in country	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
b7b	Production compared to other firms in world			double
		Don't Know	-9	
		Not Applicable	-7	
b8a1	Business Administration - Handwritten Processes			double
		Don't Know	-9	
		Not Applicable	-7	
b8a2	Business Administration - Computers (standard softwares)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	

b8a3	Business Administration - Mobile Apps or Digital Platform	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b8a4	Business Administration - Computers (specialised softwares)	Yes	1	double
		No	2	
		Don't Know	-9	
b8a5	Business Administration - ERP	Not Applicable	-7	double
		Yes	1	
		No	2	
b8a6	Business Administration - Other	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
b8b	Business Administration - MOST used method	No	2	double
		Business Administration - Handwritten Processes	1	
		Business Administration - Computers (standard softwares)	2	

		Business Administration - Mobile Apps or Digital Platform	3	
		Business Administration - Computers (specialised softwares)	4	
		Business Administration - ERP	5	
		Business Administration - Other	6	
b8c	Years using b8a4, b8a5	Don't Know	-9	double
		Not Applicable	-7	
b9a1	Production Planning - Handwritten processes	Don't Know	-9	double
		Not Applicable	-7	
b9a2	Production Planning - Computers (standard softwares)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b9a3	Production Planning - Mobile Apps or digital platforms	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
b9a4	Production Planning - Specialized software	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
b9a5	Production Planning - ERP			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b9a6	Production Planning - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
b9b	Production Planning - MOST used method			double
		Production Planning - Handwritten processes	1	
		Production Planning - Computers (standard softwares)	2	
		Production Planning - Mobile Apps or digital platforms	3	
		Production Planning - Specialized software	4	
		Production Planning - ERP	5	
		Production Planning - Other	6	
c1_0a1	Crops: Info. sources - Radio			double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a2	Crops: Info. sources - TV			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a3	Crops: Info. sources - Non-internet mobile			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a4	Crops: Info. sources - Mobile internet tech			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a5	Crops: Info. sources - Meet other producers			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a6	Crops: Info. sources - Pub. or Pvt. agent visit			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0a7	Crops: Info. sources - Precision agriculture			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_0b1	Crops: Info. sources - MOST relevant source			double

		Crops: Info. sources - Radio	1	
		Crops: Info. sources - TV	2	
		Crops: Info. sources - Non-internet mobile	3	
		Crops: Info. sources - Mobile internet tech	4	
		Crops: Info. sources - Meet other producers	5	
		Crops: Info. sources - Pub. or Pvt. agent visit	6	
		Crops: Info. sources - Precision agriculture	7	
		Crops: Info. sources - Others	8	
c1_0c1	Crops: N acres OWNED			double
		Don't Know	-9	
		Not Applicable	-7	
c1_0c2	Crops: N acres RENTED or LEASED FROM OTHERS			double
		Don't Know	-9	
		Not Applicable	-7	
c1_0c3	Crops: N acres RENTED or LEASED TO OTHERS			double
		Don't Know	-9	
		Not Applicable	-7	
c1_0c4	Crops: N acres available - Total			double
		Don't Know	-9	
		Not Applicable	-7	

c1_0c5	N tractors owned	Don't Know Not Applicable	-9 -7	double
c1_0c6	Rent tractor, equipment, or machines	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c1_0c7	Use digital or online platform for c1_0c6	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c1_0d1	Main source of seeds used	Don't know Own production	-9 1	double
		Private providers Public programs	2 3	
		Other	4	
c1_0d2	Pre-treatment to seeds	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c1_1a1	Land prep - own workers	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c1_1a2	Land prep - outsourced (another unit - same enterprise)	Don't Know Not Applicable	-9 -7	double
		Yes	1	

c1_1a3	Land prep - outsourced (other workers or enterprise)	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1b1	Land prep - Manual plowing (simple tools)	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1b2	Land prep - Animal Aided	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1b3	Land prep - Manually operated machines	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1b4	Land prep - Digitally operated tractors or equipment	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1b5	Land prep - Other	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c1_1c	Land prep - MOST used method	No	2	double
		Don't Know	-9	

		Land prep - Manual plowing (simple tools)	1	
		Land prep - Animal Aided	2	
		Land prep - Manually operated machines	3	
		Land prep - Digitally operated tractors or equipment	4	
		Land prep - Other	5	
c1_1d	Years using c1_1b4			double
		Don't Know	-9	
		Not Applicable	-7	
c1_2a1	Product requires irrigation			double
		Don't Know	-9	
		Not Applicable	-7	
c1_2b1	Irrig.- Rain-fed, no additional irrig.	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c1_2b2	Irrig. - Manual irrig.	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c1_2b3	Irrig. - Surface Flood Irrig.	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c1_2b4	Irrig. - Small Pump	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
c1_2b5	Irrig. - Drip, localized, underground, Sprinkler, centre pivot	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c1_2b6	Irrig. - Automated	Yes	1	double
		No	2	
		Don't Know	-9	
c1_2b7	Irrig.- Other	Not Applicable	-7	double
		Don't Know	-9	
		Yes	1	
c1_2c	Irrig. - MOST used method	No	2	double
		Irrig.- Rain-fed, no additional irrig.	1	
		Irrig. - Manual irrig.	2	
		Irrig. - Surface Flood Irrig.	3	
		Irrig. - Small Pump	4	
		Irrig. - Drip, localized, underground, Sprinkler, centre pivot	5	
		Irrig. - Automated	6	
		Irrig.- Other	7	

c1_2d	Years using c1_2b5, c1_2b6			Numeric
		Don't Know	-9	
		Not Applicable	-7	
c1_3a1	Weeding/pest control - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_3a2	Weeding/pest control - outsourced (another unit - same enterprise)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_3a3	Weeding/pest control - outsourced (another enterprise)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_3b1	Weeding/pest control - Manual application			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_3b2	Weeding/pest control - Mechanical application			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_3b3	Weeding/pest control - Biological methods			double
		Don't Know	-9	
		Not Applicable	-7	

c1_3b4	Weeding/pest control - Precision agriculture	Yes	1	double	
		No	2		
		Don't Know	-9		
		Not Applicable	-7		
c1_3b5	Weeding/pest control - Advanced precision agriculture	Yes	1	double	
		No	2		
		Don't Know	-9		
		Not Applicable	-7		
c1_3b6	Weeding/pest control - Other	Yes	1	double	
		No	2		
		Don't Know	-9		
		Not Applicable	-7		
c1_3c	Weeding/pest control - MOST used method	Yes	1	double	
		No	2		
		Weeding/pest control - Manual application	1		
		Weeding/pest control - Mechanical application	2		
		Weeding/pest control - Biological methods	3		
		Weeding/pest control - Precision agriculture	4		
		Weeding/pest control - Advanced precision agriculture	5		

		Weeding/pest control - Other	6	
c1_3d	Years using c1_3b6, c1_3b7		double	
		Don't Know	-9	
		Not Applicable	-7	
c1_3e	Use organic or chemicals for weeding/pest control		double	
		Don't know	-9	
		Organic	1	
		Chemical	2	
		Both	3	
c1_4a1	Harvesting, training or pruning - in house		double	
		Don't Know	-9	
		Not Applicable	-7	
c1_4a2	Harvesting, training or pruning - outsourced (another unit - same enterprise)		double	
		Yes	1	
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c1_4a3	Harvesting, training or pruning - outsourced (another enterprise)		double	
		Yes	1	
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c1_4b1	Harvesting, training, or pruning - Manual		double	
		Yes	1	
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c1_4b2	Harvesting, training, or pruning - Animal Aided		double	
		Yes	1	
		No	2	

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_4b3	Harvesting, training, or pruning - Human-operated machines			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_4b4	Harvesting, training, or pruning - Manually mechanised			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_4b5	Harvesting, training, or pruning - Digitally automated			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_4b6	Harvesting, training, or pruning - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_4c	Harvesting, training, or pruning - MOST used method			double
		Don't know	-9	
		Harvesting, training, or pruning - Manual	1	

		Harvesting, training, or pruning - Animal Aided	2	
		Harvesting, training, or pruning - Human-operated machines	3	
		Harvesting, training, or pruning - Manually mechanised	4	
		Harvesting, training, or pruning - Digitally automated	5	
		Harvesting, training, or pruning - Other	6	
c1_4d	Years using c1_4b4, c1_4b5			double
		Don't Know	-9	
		Not Applicable	-7	
c1_5a1	Storage - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c1_5a2	Storage - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c1_5a3	Storage - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b1	Storage facility - Precarious			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b2	Storage facility - Protected (w/o temp. control)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b3	Storage facility - Special Storage (temp. control)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b4	Storage facility - High-end central storage			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b5	Storage facility - Cont. temp. monitoring			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_5b6	Storage facility - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c1_5c	Storage facility - MOST used		double
		Don't know	-9
		Storage facility - Precarious	1
		Storage facility - Protected (w/o temp. control)	2
		Storage facility - Special Storage (temp. control)	3
		Storage facility - High-end central storage	4
		Storage facility - Cont. temp. monitoring	5
		Storage facility - Other	6
c1_5d	Years using c1_5b3, c1_5b4, c1_5b5		double
		Don't Know	-9
		Not Applicable	-7
c1_6a1	Packing - in house		double
		Don't Know	-9
		Not Applicable	-7
		Yes	1
		No	2
c1_6a2	Packing - outsourced (another unit - same firm)		double
		Don't Know	-9
		Not Applicable	-7
		Yes	1
		No	2

c1_6a3	Packing - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6b1	Packing - Manual			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6b2	Packing - Human-operated mech. equip.			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6b3	Packing - Automated			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6b4	Packing - Modified atmosphere			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6b5	Packing - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c1_6c	Packing - MOST used method			double
		Packing - Manual	1	
		Packing - Human- operated mech. equip.	2	

		Packing - Automated	3	
		Packing - Modified atmosphere	4	
		Packing - Other	5	
c1_6d	Years using c1_6b, c1_6b4			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0a1	Livestock: Info sources - Radio			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0a2	Livestock: Info sources - TV	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_0a3	Livestock: Info sources - Non-internet mobile	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_0a4	Livestock: Info sources - Mobile internet tech	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_0a5	Livestock: Info sources - Meet other producers	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c2_0a6	Livestock: Info sources - Pub or pvt agen visits	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_0a7	Livestock: Info sources - Precision agri tools	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_0b	Livestock: Info sources - MOST relevant source	Don't Know	-9	double
		Livestock: Info sources - Radio	1	
		Livestock: Info sources - TV	2	
		Livestock: Info sources - Non-internet mobile	3	
		Livestock: Info sources - Mobile internet tech	4	
		Livestock: Info sources - Meet other producers	5	
		Livestock: Info sources - Pub or pvt agen visits	6	
		Livestock: Info sources - Precision agri tools	7	
		Livestock: Info sources - Others	8	

c2_0c1	Livestocks: No. of acres OWNED			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0c2	Livestocks: No. of acres RENTED or LEASED FROM OTHERS			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0c3	Livestocks: No. of acres RENTED or LEASED TO OTHERS			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0c4	Livestocks: No. of acres OPERATES Total			double
		Don't Know	-9	
		Not Applicable	-7	
c2_0d	Process production - in house			Numeric
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1a1	Breeding/genetic - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1a2	Breeding/genetic - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1a3	Breeding/genetic - outsourced (another firm)			double

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1b1	Breeding/genetic - Breed substitution			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1b2	Breeding/genetic - Inbreeding or Crossbreeding			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1b3	Breeding/genetic - Artificial insemination (AI)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1b4	Breeding/genetic - Selective breeding			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1b5	Breeding/genetic - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_1c	Breeding/genetic - MOST used method			double
		Don't Know	-9	
		Breeding/genetic - Breed substitution	1	

		Breeding/genetic - Inbreeding or Crossbreeding	2	
		Breeding/genetic - Artificial insemination (AI)	3	
		Breeding/genetic - Selective breeding	4	
		Breeding/genetic - Other	5	
c2_1d	Years using c2_1b3, c2_1b4			double
		Don't Know	-9	
		Not Applicable	-7	
c2_2a1	Animal nutrition/feeding - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c2_2a2	Animal nutrition/feeding - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_2a3	Animal nutrition/feeding - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_2b1	Animal nutrition - Household waste or fibrous crop residues	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b2	Animal nutrition - Natural grasslands and pastures			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b3	Animal nutrition - Integrated crop-livestock systems			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b4	Animal nutrition - Production of forage crops			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b5	Animal nutrition - Production of supplementary feed			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b6	Animal nutrition - Manu. or mixing of feed			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b7	Animal nutrition - Prod. of genetically-modified feed			double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2b8	Animal nutrition - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_2c	Animal nutrition - MOST used method			double
		Don't Know	-9	
		Animal nutrition - Household waste or fibrous crop residues	1	
		Animal nutrition - Natural grasslands and pastures	2	
		Animal nutrition - Integrated crop-livestock systems	3	
		Animal nutrition - Production of forage crops	4	
		Animal nutrition - Production of supplementary feed	5	
		Animal nutrition - Manu. or mixing of feed	6	

		Animal nutrition - Prod. of genetically- modified feed	7	
		Animal nutrition - Other	8	
c2_2d	Years using c2_2b5, c2_2b6, c2_2b7			double
		Don't Know	-9	
		Not Applicable	-7	
c2_3a1	Animal healthcare - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c2_3a2	Animal healthcare - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_3a3	Animal healthcare - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_3b1	Animal healthcare - Rapid diagnostic tests	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_3b2	Animal healthcare - Pest sprays	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c2_3b3	Animal healthcare - Vaccines			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_3b4	Animal healthcare - DNA or RNA vaccine			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_3b5	Animal healthcare - Disease med.			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_3b6	Animal healthcare - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_3c	Animal healthcare - MOST used method			double
		Don't Know	-9	
		Animal healthcare - Rapid diagnostic tests	1	
		Animal healthcare - Pest sprays	2	
		Animal healthcare - Vaccines	3	

		Animal healthcare - DNA or RNA vaccine	4	
		Animal healthcare - Disease med.	5	
		Animal healthcare - Other	6	
c2_3d	Years using c2_3b3, c2_3b4			double
		Don't Know	-9	
		Not Applicable	-7	
c2_4a1	Herd mgt/monitoring - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c2_4a2	Herd mgt/monitoring - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_4a3	Herd mgt/monitoring - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_4b1	Herd mgt/monitoring - Human	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c2_4b2	Herd mgt/monitoring - Animal-aided	Yes	1	
		No	2	double

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b3	Herd mgt/monitoring - Feedlots or grazing			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b4	Herd mgt/monitoring - Automated cameras/video			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b5	Herd mgt/monitoring - Unmanned aerial			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b6	Herd mgt/monitoring - Analog tracking			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b7	Herd mgt/monitoring - Digital tracking			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c2_4b8	Herd mgt/monitoring - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	

c2_4c	Herd mgt/monitoring - MOST used method	No	2	double
		Don't Know	-9	
		Herd mgt/monitoring - Human	1	
		Herd mgt/monitoring - Animal-aided	2	
		Herd mgt/monitoring - Feedlots or grazing	3	
		Herd mgt/monitoring - Automated cameras/video	4	
		Herd mgt/monitoring - Unmanned aerial	5	
		Herd mgt/monitoring - Analog tracking	6	
		Herd mgt/monitoring - Digital tracking	7	
		Herd mgt/monitoring - Other	8	
c2_4d	Years using c2_4b5, c2_4b6, c2_4b7			double
		Don't Know	-9	
		Not Applicable	-7	
c2_5a1	Transp. livestock - in house			double
		Don't Know	-9	
		Not Applicable	-7	

c2_5a2	Transp. livestock - outsourced (another unit - same enterprise)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c2_5a3	Transp. livestock - outsourced (another enterprise)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c2_5b1	Transp. livestock - Manual	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c2_5b2	Transp. livestock - Non- motorized vehicles	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c2_5b3	Transp. livestock - Motorized vehicles	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c2_5b4	Transp. livestock - Specialized/climate- controlled vehicles	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c2_5b5	Transp. livestock - Other	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c2_5c	Transp. - MOST used method	Don't Know Transp. livestock - Manual Transp. livestock - Non-motorized vehicles Transp. livestock - Motorized vehicles Transp. livestock - Specialized/climate-controlled vehicles Transp. livestock - Other	-9 1 2 3 4 5	double
c2_5d	Years using c2_5b4	Don't Know Not Applicable	-9 -7	double
c3_0a1	Regulated/inspected by govt. agency	Don't Know Not Applicable	-9 -7	double
		Yes No	1 2	
c3_0a2 c3_0b1	Main agency regulating Finished - shelf stable	Open ended Don't Know Not Applicable		String double
		Yes	-9 -7 1	

c3_0b2	Finished - fresh/perishable	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1a1	Input testing - in house	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1a2	Input testing - outsourced (another unit - same firm)	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1a3	Input testing - outsourced (another firm)	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1b1	Input testing - Sensory	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1b2	Input testing - Review of supplier testing	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c3_1b3	Input testing - Non- computer-controlled	No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c3_1b4	Input testing - Computer testing			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_1b5	Input testing - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_1c	Input testing - MOST used method			double
		Don't Know	-9	
		Input testing - Sensory	1	
		Input testing - Review of supplier testing	2	
		Input testing - Non-computer-controlled	3	
		Input testing - Computer testing	4	
		Input testing - Other	5	
c3_1d	Years using c3_1b4			double
		Don't Know	-9	
		Not Applicable	-7	
c3_2a1	Food prep. - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c3_2a2	Food prep. - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2a3	Food prep. - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2b1	Food prep. - Manual			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2b2	Food prep. - Mech. equipment (human force)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2b3	Food prep. - Power equipment (human interaction)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2b4	Food prep. - Power equipment (computers or robotics, minimal int.)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2b5	Food prep. - Other			double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c3_2c	Food prep. - MOST used method			double
		Don't Know	-9	
		Food prep. - Manual	1	
		Food prep. - Mech. equipment (human force)	2	
		Food prep. - Power equipment (human interaction)	3	
		Food prep. - Power equipment (computers or robotics, minimal int.)	4	
		Food prep. - Other	5	
c3_2d	Years using c3_2b3, c3_2b4			double
		Don't Know	-9	
		Not Applicable	-7	
c3_3a1	Anti-bacterial - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3a2	Anti-bacterial - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c3_3a3	Anti-bacterial - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3b1	Anti-bacterial - Minimal-processing preservation			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3b2	Anti-bacterial - Anti-bacterial wash or soaking			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3b3	Anti-bacterial - Thermal Processing			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3b4	Anti-bacterial - Other adv. methods			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3b5	Anti-bacterial - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_3c	Anti-bacterial - MOST used method			double
		Don't Know	-9	

		Anti-bacterial - Minimal-processing preservation	1	
		Anti-bacterial - Anti-bacterial wash or soaking	2	
		Anti-bacterial - Thermal Processing	3	
		Anti-bacterial - Other adv. methods	4	
		Anti-bacterial - Other	5	
c3_3d	Years using c3_3b3, c3_3b4			double
		Don't Know	-9	
		Not Applicable	-7	
c3_4a1	Food pkg. - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c3_4a2	Food pkg. - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_4a3	Food pkg. - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_4b1	Food pkg. - Manual	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	

c3_4b2	Food pkg. - Human-operated mech. equip.	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_4b3	Food pkg. - Power equip. (human interaction)	Yes	1	double
		No	2	
		Don't Know	-9	
c3_4b4	Food pkg. - Power equip. (comp./robotics, min. human int.)	Not Applicable	-7	double
		Yes	1	
		No	2	
c3_4b5	Food pkg. - Other	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
c3_4c	Food pkg. - MOST used method	No	2	double
		Don't Know	-9	
		Food pkg. - Manual	1	
		Food pkg. - Human-operated mech. equip.	2	
		Food pkg. - Power equip. (human interaction)	3	
		Food pkg. - Power equip. (comp./robotics, min. human int.)	4	

		Food pkg. - Other	5	
c3_4d	Years using c3_4b3, c_3b4			double
		Don't Know	-9	
		Not Applicable	-7	
c3_5a1	Store food - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c3_5a2	Store food - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_5a3	Store food - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_5b1	Food storage - Minimal protection (some exposure)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_5b2	Food storage - Ambient conditions (closed building)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c3_5b3	Food storage - Some climate control (secured building)	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c3_5b4	Food storage - Automated climate (security-controlled building)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_5b5	Food storage - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c3_5c	Food storage - MOST used method			double
		Don't Know	-9	
		Food storage - Minimal protection (some exposure)	1	
		Food storage - Ambient conditions (closed building)	2	
		Food storage - Some climate control (secured building)	3	
		Food storage - Automated climate (security-controlled building)	4	
		Food storage - Other	5	
c3_5d	Years using c3_5b3, c3_5b4			double

		Don't Know	-9	
		Not Applicable	-7	
c4_0a1	Prod. material - Printed fabric			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0a2	Prod. material - White fabric			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0a3	Prod. material - Fabric threads			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0a4	Prod. material - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0b1	Garments prod.- Basic			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0b2	Garments prod. - Fashion			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_0b3	Garments prod. - Sports			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	

c4_0b4	Garments prod. - Protective apparel	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c4_0b5	Garments prod. - Other	Yes	1	double
		No	2	
		Don't Know	-9	
c4_0c1	Finishes - Silk screen	Not Applicable	-7	double
		Yes	1	
		No	2	
c4_0c2	Finishes - Embroidery	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
c4_0c3	Finishes - Washing	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c4_0c4	Finishes - Waterproofing	Yes	1	double
		No	2	
		Don't Know	-9	
c4_0c5	Finishes - Other	Not Applicable	-7	double
		Yes	1	
		No	2	
c4_1a1	Provide files for design	Don't Know	-9	double
		No	2	

		Not Applicable	-7	
c4_1a2	Most common file provd.	Yes	1	double
		No	2	
		Don't know	-9	
		Graded file of all sizes ready to cut	1	
		A prototype cutting file for grading	2	
		Hand drawing of the design	3	
		Computer drawing of the design	4	
c4_1a3	Design drawing - in house	3D file of the design	5	double
		Other	6	
		Don't Know	-9	
		Not Applicable	-7	
c4_1a4	Design drawing - outsourced (another unit - same firm)	Yes	1	double
		No	2	
		Don't Know	-9	
c4_1a5	Design drawing - outsourced (another firm)	Not Applicable	-7	double
		Yes	1	
		No	2	
		Don't Know	-9	
c4_1b1	Design drawing - Manual/hand-draw	Not Applicable	-7	double
		Yes	1	
		No	2	
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c4_1b2	Design drawing - Digital/semi-digital design			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_1b3	Design drawing - CAD			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_1b4	Design drawing - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_1c	Design drawing - MOST used method			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_1d	Years using c4_1b2, c4_1b3			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2a1	Cutting - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2a2	Cutting - outsourced (another unit - same firm)			double

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2a3	Cutting - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b1	Cutting - Manual cutting			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b2	Cutting - Cutting machine (manually operated)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b3	Cutting - Semi-Automatic cutting machine			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b4	Cutting - Automatic/Computerized cutting machine (no Laser)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b5	Cutting - Automatic/Computerized cutting machine (Laser)			double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2b6	Cutting - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_2c	Cutting - MOST used method			double
		Don't know	-9	
		Cutting - Manual cutting	1	
		Cutting - Cutting machine (manually operated)	2	
		Cutting - Semi- Automatic cutting machine	3	
		Cutting - Automatic/Com puterized cutting machine (no Laser)	4	
		Cutting - Automatic/Com puterized cutting machine (Laser)	5	
		Cutting - Other	6	
c4_2d	Years using c4_2b4, c4_2b5			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3a1	Sewing - in house			double

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3a2	Sewing - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3a3	Sewing - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3b1	Sewing - Manually			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3b2	Sewing - Machine (manually operated)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3b3	Sewing - Semi-automated machines			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3b4	Sewing - Automated machines			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c4_3b5	Sewing - 3D Knitting	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3b6	Sewing - Other	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_3c	Sewing - MOST used method	Don't know	-9	double
		Sewing - Manually	1	
		Sewing - Machine (manually operated)	2	
		Sewing - Semi-automated machines	3	
		Sewing - Automated machines	4	
		Sewing - 3D Knitting	5	
		Sewing - Other	6	
c4_3d	Years using c4_3b3, c4_3b4, c4_3b5	Don't Know	-9	double
		Not Applicable	-7	
c4_4a1	Finishing/ironing- in house	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4a2	Finishing/ironing - outsourced (another unit - same firm)	Don't Know	-9	double

		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4a3	Finishing/ironing - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4b1	Finishing/ironing - Basic manual ironing			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4b2	Finishing/ironing - Electric high-pressure steam iron			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4b3	Finishing/ironing - Tunnel finisher			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4b4	Finishing/ironing - Form finishing machine			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c4_4b5	Finishing/ironing - High tech pressing machine			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	

c4_4b6	Finishing/ironing - Other	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c4_4c	Finishing/ironing - MOST used method	No	2	double
		Don't know	-9	
		Finishing/ironing - Basic manual ironing	1	
		Finishing/ironing - Electric high-pressure steam iron	2	
		Finishing/ironing - Tunnel finisher	3	
		Finishing/ironing - Form finishing machine	4	
		Finishing/ironing - High tech pressing machine	5	
		Finishing/ironing - Other	6	
c4_4d	Years using c4_4b3, c4_4b4, c4_4b5			double
		Don't Know	-9	
		Not Applicable	-7	
c7_1a1	Cust. supp. - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
c7_1a2	Cust. supp. - outsourced (another unit - same firm)	No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1a3	Cust. supp. - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b1	Cust. serv. - Store			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b2	Cust. serv. - Phone or Help Desk			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b3	Cust. serv. - Social Media			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b4	Cust. serv. - Online requests			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b5	Cust. serv. - Chatbots			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_1b6	Cust. serv. - Other			double
		Don't Know	-9	
		Not Applicable	-7	

c7_1c	Service procedure - MOST used method	Yes	1	double
		No	2	
		Don't know	-9	
		Cust. serv. - Store	1	
		Cust. serv. - Phone or Help Desk	2	
		Cust. serv. - Social Media	3	
		Cust. serv. - Online requests	4	
		Cust. serv. - Chatbots	5	
		Cust. serv. - Other	6	
		c7_1d	Years using c7_1b3, c7_1b4, c7_1b5	
		Not Applicable	-7	
c7_2a1	Pricing - in house	Don't Know	-9	double
		Not Applicable	-7	
c7_2a2	Pricing - outsourced (another unit - same firm)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_2a3	Pricing - outsourced (another firm)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_2b1	Pricing - Manual Cost	Yes	1	double
		No	2	
		Don't Know	-9	

		Not Applicable	-7	
c7_2b2	Pricing - Automated markup	Yes	1	double
		No	2	
		Don't Know	-9	
c7_2b3	Pricing - Automated promotional	Not Applicable	-7	double
		Yes	1	
		No	2	
c7_2b4	Pricing - Dynamic pricing systems	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
c7_2b5	Pricing - Personalized pricing (predictive analytics)	No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c7_2b6	Pricing - Other	Yes	1	double
		No	2	
		Don't Know	-9	
c7_2c	Pricing - MOST used method	Not Applicable	-7	double
		Yes	1	
		No	2	
		Don't know	-9	
		Pricing - Manual Cost	1	
		Pricing - Automated markup	2	

		Pricing - Automated promotional	3	
		Pricing - Dynamic pricing systems	4	
		Pricing - Personalized pricing (predictive analytics)	5	
		Pricing - Other	6	
c7_2d	Years using c7_2b4, c7_2b5			double
		Don't Know	-9	
		Not Applicable	-7	
c7_2da	Regulation - price mechanism			double
		Don't Know	-9	
		Not Applicable	-7	
c7_2db	Agency regulating price	Yes	1	
		No	2	
c7_3a1	Merchandising - in house	Open ended		String double
		Don't Know	-9	
		Not Applicable	-7	
c7_3a2	Merchandising - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c7_3a3	Merchandising - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	

c7_3b1	Merchandising - Manually selection	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_3b2	Merchandising - Category mgt.	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_3b3	Merchandising - Retail Merch. Systems or Digital Merch.	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_3b4	Merchandising - Product trend analytics	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_3b5	Merchandising - Other	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c7_3c	Merchandising - MOST used method	Yes	1	double
		No	2	
		Don't know	-9	
		Merchandising - Manually selection	1	
		Merchandising - Category mgt.	2	

		Merchandising - Retail Merch. Systems or Digital Merch.	3	
		Merchandising - Product trend analytics	4	
		Merchandising - Other	5	
c7_3d	Years using c7_3b3, c7_3b4			double
		Don't Know	-9	
		Not Applicable	-7	
c7_4a1	Mgt. inventory - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4a2	Mgt. inventory - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4a3	Mgt. inventory - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4b1	Inventory - Handwritten record keeping			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c7_4b2	Inventory - Computer databases (manual updates)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4b3	Inventory - WMS (specialised software)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4b4	Inventory - CAO, vendor-managed, and/or radio-frequency identification			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4b5	Inventory - AS/RS			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4b6	Inventory - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_4c	Inventory - MOST used method			double
		Don't know	-9	
		Inventory - Handwritten record keeping	1	
		Inventory - Computer databases (manual updates)	2	

		Inventory - WMS (specialised software)	3	
		Inventory - CAO, vendor-managed, and/or radio-frequency identification	4	
		Inventory - AS/RS	5	
		Inventory - Other	6	
c7_4d	Years using c7_4b4, c7_4b5			double
		Don't Know	-9	
		Not Applicable	-7	
c7_5a1	Ads - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c7_5a2	Ads - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c7_5a3	Ads - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c7_5b1	Ad channels - Paper based communication	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c7_5b2	Ad channels - Radio, Billboards, TV	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5b3	Ad channels - Email or mobile phone	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5b4	Ad channels - Social Media	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5b5	Ad channels - Search Engine Marketing	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5b6	Ad channels - Big data Analytics or AI	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5b7	Ad channels - Other	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c7_5c	Ad channels - MOST used method	Don't know	-9	double

		Ad channels - Paper based communication	1	
		Ad channels - Radio, Billboards, TV	2	
		Ad channels - Email or mobile phone	3	
		Ad channels - Social Media	4	
		Ad channels - Search Engine Marketing	5	
		Ad channels - Big data Analytics or AI	6	
		Ad channels - Other	7	
c7_5d	Years using c7_5b5, c7_5b6			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0a1	Transport serv. - Passengers			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0a2	Transport serv. - Freight	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c9_0a3	Transport serv. - Other	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c9_0b1	Fleet type - Trucks	Yes	1	
		No	2	double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c9_0b10	N of vehicles with GPS tracking	Open ended		double
c9_0b2	Fleet type - Cars			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_0b3	Fleet type - Motorcycle			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_0b4	Fleet type - Others			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_0b5	N of vehicles - Trucks			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0b6	N of vehicles - Cars			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0b7	N of vehicles - Motorcycle			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0b7_bf	N of vehicles - Motorcycle			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0b8	N of vehicles with automatic transmission			double
		Don't Know	-9	
		Not Applicable	-7	

c9_0b9	N of vehicles with hybrid or electric			double
		Don't Know	-9	
		Not Applicable	-7	
c9_0c1	Regulations - hours uninterrupted driving			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_0c2	Regulations - type of vehicles allowed			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_1a1	Load optimization - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_1a2	Load optimization - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_1a3	Load optimization - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_1b1	Transportation planning - handwritten info.			double
		Don't Know	-9	
		Not Applicable	-7	

c9_1b2	Transportation planning - electronic file share	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_1b3	Transportation planning - installed software	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_1b4	Transportation planning - real time info. with ERP	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_1b5	Transportation planning - Other	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_1c	Transportation planning - MOST used method	Yes	1	double
		No	2	
		Don't know Information collected by non-specialized workers to create load plans	-9	
		Information collected by electronic file share (e.g. Email or FAX to create load plans)	1	

		Batch information collected by software installed ERP to create ERP generated load plans	3	
		Real time information by online software interface with ERP to create load plans	4	
c9_1d	Years using c9_1b3, c9_1b4	Other	5	double
		Don't Know	-9	
		Not Applicable	-7	
c9_2a1	Execute transp. load plans - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c9_2a2	Execute transp. load plans - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c9_2a3	Execute transp. load plans - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c9_2b1	Loading - Manual process (fax, text, phone)	Yes	1	
		No	2	double

		Don't Know	-9	
		Not Applicable	-7	
c9_2b2	Loading - Manual process (dig. platforms)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_2b3	Loading - web-based	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_2b4	Loading - specific software interface via Internet	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_2b5	Loading - file exchange (ERP integrated apps)	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_2b6	Loading - Other	Yes	1	double
		No	2	
		Don't Know	-9	
		Not Applicable	-7	
c9_2c	Loading - MOST used method	Yes	1	Numeric
		No	2	
		Don't know	-9	
		Loading - Manual process (fax, text, phone)	1	

		Loading - Manual process (dig. platforms)	2	
		Loading - web-based	3	
		Loading - specific software interface via Internet	4	
		Loading - file exchange (ERP integrated apps)	5	
		Loading - Other	6	
c9_2d	Years using c9_2b3, c9_2b4, c9_2b5			double
		Don't Know	-9	
		Not Applicable	-7	
c9_3a1	Monitor load/delivery - in house			double
		Don't Know	-9	
		Not Applicable	-7	
c9_3a2	Monitor load/delivery - outsourced (another unit - same firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
c9_3a3	Monitor load/delivery - outsourced (another firm)	Yes	1	
		No	2	double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c9_3b1	Monitoring load/delivery - Event driven (fax, text, phone calls)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3b2	Monitoring load/delivery - Event driven (digital)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3b3	Monitoring load/delivery - Paper documentation			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3b4	Monitoring load/delivery - installed softwares			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3b5	Monitoring load/delivery - ERP integrated apps			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3b6	Monitoring load/delivery - Other			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_3c	Transportation monitoring - MOST used method			double
		Don't know	-9	

		Monitoring load/delivery - Event driven (fax, text, phone calls)	1	
		Monitoring load/delivery - Event driven (digital)	2	
		Monitoring load/delivery - Paper documentation	3	
		Monitoring load/delivery - installed softwares	4	
		Monitoring load/delivery - ERP integrated apps	5	
		Monitoring load/delivery - Other	6	
c9_3d	Years using c9_3b3, c9_3b4, c9_3b5			double
		Don't Know	-9	
		Not Applicable	-7	
c9_4a1	Transport performance - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4a2	Transport performance - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c9_4a3	Transport performance - outsourced (another firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b1	Transp. perf. - manually			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b2	Transp. perf. - computer (non-specialized software)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b3	Transp. perf. - computer (specialised transp. reporting)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b4	Transp. perf. - installed software			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b5	Transp. perf. - file exchange between ERP integrated			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4b6	Transp. perf. - Other			double
		Don't Know	-9	

		Not Applicable	-7	
		Yes	1	
		No	2	
c9_4c	Transp. Perf. - MOST used method			double
		Don't know	-9	
		Transp. perf. - manually	1	
		Transp. perf. - computer (non-specialized software)	2	
		Transp. perf. - computer (specialised transp. reporting)	3	
		Transp. perf. - installed software	4	
		Transp. perf. - file exchange between ERP integrated	5	
		Transp. perf. - Other	6	
c9_4d	Years using c9_4b3, c9_4b4, c9_4b5			double
		Don't Know	-9	
		Not Applicable	-7	
c9_5a1	Fleet assets - in house			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5a2	Fleet assets - outsourced (another unit - same firm)			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	

c9_5a3	Fleet assets - outsourced (another firm)	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5b1	Fleet management - manual	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5b2	Fleet management - electronic file	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5b3	Fleet management - ETM	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5b4	Fleet management - ERP and software	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5b5	Fleet management - Other	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
c9_5c	Fleet management - MOST used method	Don't know	-9	double
		Fleet management - manual	1	

		Fleet management - electronic file	2	
		Fleet management - ETM	3	
		Fleet management - ERP and software	4	
		Fleet management - Other	5	
c9_5d	Years using c9_5b3, c9_5b4			double
		Don't Know	-9	
		Not Applicable	-7	
d1a	Purchase/Lease - Equip. or Mach.			double
		Don't know	-9	
		Yes, new	1	
		Yes, second hand	2	
		Yes, both (new and second hand)	3	
		No	4	
d1b	Purchase or Lease - Software License			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
d1c	Dev., Custom. or Modif. of Machine or Software			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
d2a	Most used info. source for decision making			double
		Don't know	-9	
		Oth. firms in the sector	1	

		Oth. firms in the locality, but diff. sector	2	
		Suppliers or buyers	3	
		Industrial or trade assoc.	4	
		Public tech. extension services	5	
		Private consultants	6	
		Fairs, events, and missions	7	
		Other	8	
d2d	Business Relationship - Multinational firm	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
d2e	CEO Experience - Large firm in same sector/multinational firm	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
d3a	Loan - mach., equip or licensing	Don't Know	-9	double
		Not Applicable	-7	
		Yes	1	
		No	2	
d3c	No. - needed to borrow but not get it	Don't Know	-9	double
		Not Applicable	-7	
d4a	Formal Incentives - Money, gift, or recognition			double

		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
d4b	No. KPIs monitored			double
		Don't know	-9	
		1-2 key performance indicators	1	
		3-9 key performance indicators	2	
		10 or more key performance indicators	3	
		No key performance indicators	4	
d6a	Did export?			double
		Don't know	-9	
		Exported directly	1	
		Exported through trading firms	2	
		Did not export	3	
d6b	Direct Exports (% of sales)			double
		Don't Know	-9	
		Not Applicable	-7	
d6c	Imported inputs, machines or equipment?			double
		Don't Know	-9	
		Not Applicable	-7	
		Yes	1	
		No	2	
d7a	Awareness - govt. support program/subsidy for tech. adoption			double
		Don't Know	-9	
		Not Applicable	-7	

		Yes	1
		No	2
d7b	Benefitted from any govt. program/subsidy	Don't Know	-9
		Not Applicable	-7
		Yes	1
		No	2
d7c	Which kind of govt program/subsidy benefitted from		double
		Information	1
		Technical assistance	2
		Tax incentive	3
		Grant	4
		Loan	5
		Other	6
d8a	1st obstacle to adopt technology	Open ended	String
d8b	2nd obstacle to adopt technology	Open ended	String
d8c	3rd obstacle to adopt technology	Open ended	String
d8d	1st reason for the acquisition of technology	Open ended	String
d8e	2nd reason for the acquisition of technology	Open ended	String
d8f	3rd reason for the acquisition of technology	Open ended	String
e1	Total no. workers by end of (ref_year1)		double
		Don't Know	-9
		Not Applicable	-7
e1a	No. of permanent workers, full-time (ref_year1)		Numeric
		Don't Know	-9
		Not Applicable	-7
e1f	Total share of female workers (ref_year1)		double
		Don't Know	-9
		Not Applicable	-7

e2	Total no. workers by end of (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e3a	No. of CEOs and Managers (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e3b	No. of Professionals (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e3c	No. of Technicians (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e3d	No. of Clerical support workers (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e3e	No. of Production workers (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e3f	No. of Service or sales workers (ref_year1)			double
		Don't Know	-9	
		Not Applicable	-7	
e4a	No. of CEOs and Managers (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e4b	No. of Professionals (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e4c	No. of Technicians (ref_year2)			double

		Don't Know	-9	
		Not Applicable	-7	
e4d	No. of Clerical support workers (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e4e	No. of Production workers (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e4f	No. of Service or sales workers (ref_year2)			double
		Don't Know	-9	
		Not Applicable	-7	
e5a	% of workers - completed primary education			double
		Don't Know	-9	
		Not Applicable	-7	
e5b	% of workers - completed secondary education			double
		Don't Know	-9	
		Not Applicable	-7	
e5c	% of workers - vocational training			double
		Don't Know	-9	
		Not Applicable	-7	
e5d	% of workers - completed college degree or more			double
		Don't Know	-9	
		Not Applicable	-7	
e5e	No. of workers - engineering or applied science			double
		Don't Know	-9	
		Not Applicable	-7	

e5f	No. of workers - MBA, Masters or Doctoral degree	Don't Know	-9	double
e6a	Total sales (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
e6b	Total sales (ref_year2)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e7a	Total labor cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e7b	Total material cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e7c	Total energy cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e7d	Operation cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e8a	Equipment cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e8b	Building cost (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	
		Not Applicable	-7	
e9rd	Total R&D expenditure (ref_year1)	Not Applicable	-7	double
		Don't Know	-9	

		Not Applicable	-7
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