

TABLE 94

Motivation for artificial intelligence technology adoption and utilization for companies using the technology, by industry: 2016–18

(Number and percent)

Industry	NAICS code	Companies (number)	To automate tasks performed by labor		To upgrade outdated processes or methods		To improve quality or reliability of processes or methods		To expand the range of goods or services		To adopt standards and accreditation		Some other reason	
All industries	11, 21–23, 31–33, 42–81	141,159		27.6		37.1		49.4		23.9		11.8		18.2
Manufacturing industries	31–33	6,327		38.3		47.5		54.8		25.5		13.1		13.7
Food	311	323		31.3		69.3		42.4		15.8	r	13.9	r	14.6
Beverage and tobacco products	312	120		43.3		47.5		69.2		25.0		0.0		D
Textile, apparel, and leather products	313–16	156		26.3		46.8	r	41.0	r	9.0	r	4.5	r	10.3
Wood products	321	191		43.5		82.2		79.1		6.3	r	1.6		4.7
Paper	322	18		72.2		55.6		61.1		33.3		D		33.3
Printing and related support activities	323	385		29.6		37.4		37.4		31.2		4.4		33.8
Petroleum and coal products	324	4		D		D		D		D		D		D
Chemicals	325	262		34.4		52.3		68.3		25.6		15.6		8.8
Pesticide, fertilizer, and other agricultural chemical manufacturing	3253	0		0.0		0.0		0.0		0.0		0.0		0.0
Pharmaceuticals and medicines	3254	40		30.0		60.0		70.0		7.5		40.0	r	17.5
Soap, cleaning compound, and toilet preparation manufacturing	3256	48		27.1		52.1		50.0	r	45.8	r	D		D
Other chemicals	other 325	174		37.9		50.0	r	72.4		23.6	r	12.6	r	6.3
Plastics and rubber products	326	236		47.0		64.8		73.7		26.7		16.5	r	5.5
Nonmetallic mineral products	327	131		29.8		56.5		40.5		8.4	r	17.6		17.6
Primary metals	331	50		62.0		36.0		78.0		30.0	r	10.0		D
Fabricated metal products	332	1,517		38.4		52.0		51.2		27.4		16.0		10.9
Machinery	333	887		36.4		30.3		63.5		27.5		13.0	r	11.0
Computer and electronic products	334	442		34.8		31.7		56.6		23.1		11.1		21.5
Communications equipment	3342	55		60.0		29.1		52.7	r	30.9	r	D		D
Semiconductor and other electronic components	3344	111		24.3		34.2		83.8		10.8	r	15.3	r	15.3
Navigational, measuring, electromedical, and control instruments	3345	194		23.7		32.5		44.3		17.0		11.9	r	31.4
Other computer and electronic products	other 334	83		57.8		30.1	r	50.6		49.4		D		10.8
Electrical equipment, appliances, and components	335	212		18.4		29.2	r	31.1		49.1		5.7	r	12.3
Transportation equipment	336	349		25.8		33.8	r	27.8		24.1	r	18.1	r	30.4
Automobiles, bodies, trailers, and parts	3361–63	293		23.2		33.1	r	21.8		22.9	r	20.5	r	33.1
Aerospace products and parts	3364	35		54.3	r	45.7	r	74.3		25.7	r	D		14.3
Other transportation	other 336	19		21.1		36.8	r	31.6	r	31.6	r	0.0		D
Furniture and related products	337	382		69.4		48.2		79.1		27.5	r	30.4		5.2
Miscellaneous	339	666		44.3		59.5		56.3		25.7		6.9		9.9
Medical equipment and supplies	3391	284		47.9		54.9		56.3		38.0	r	8.8	r	7.7
Other miscellaneous manufacturing	3399	383		41.3		62.9		56.7		16.7		6.0		11.7
Nonmanufacturing industries	11, 21–23, 42–81	134,833		27.1		36.6		49.2		23.8		11.7		18.4
Agriculture, forestry, fishing, and hunting	11	300	r	68.3		32.7		27.0	r	D		0.0		0.0
Mining, extraction, and support activities	21	258		31.8	r	38.0	r	40.3		8.9	r	1.2	r	5.0
Utilities	22	65		36.9		27.7	r	84.6		18.5	r	D		D
Construction	23	10,274		23.5		35.1		45.0		20.1		12.7		20.6
Wholesale trade	42	5,293		26.0		35.4		44.1		24.5		9.4		19.2

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Retail trade	44–45	13,168	21.8	35.7	43.6	30.2	13.7	17.3
Transportation and warehousing	48–49	3,527	18.1	34.6	48.8	15.6	15.0	20.9
Information	51	4,039	36.9	42.0	52.9	38.1	5.6	17.5
Publishing	511	1,331	31.4	40.6	45.8	35.4	3.3	27.2
Newspaper, periodical, book, and directory publishers	5111	361	37.7 r	65.9	54.6	29.4	2.2 r	20.2
Software publishers	5112	970	29.0	31.1	42.5	37.7	3.6	30.0
Telecommunications	517	275	42.2	37.5	44.7	30.2	4.0	20.0
Data processing, hosting, and related services	518	1,168	40.2	40.6	60.7	43.1	9.4	12.6 r
Other information	other 51	1,263	38.7	45.7	54.9	37.8	4.8	11.1
Finance and insurance	52	8,784	28.8	42.4	56.0	25.1	12.2	14.4
Real estate and rental and leasing	53	8,541	27.8	37.1	45.4	14.7	10.7	20.4
Lessors of nonfinancial intangible assets (except copyrighted works)	533	0	0.0	0.0	0.0	0.0	0.0	0.0
Other real estate and rental and leasing	other 53	8,541	27.8	37.1	45.4	14.7	10.7	20.4
Professional, scientific, and technical services	54	38,008	31.9	36.5	53.0	26.9	8.7	16.3
Legal services	5411	5,965	29.6	37.7	39.4	13.3	7.4	24.2
Accounting, tax preparation, bookkeeping, and payroll services	5412	4,980	40.2	43.2	55.9	14.7	7.5	8.6
Architectural, engineering, and related services	5413	3,046	23.9	31.7	56.5	22.5	14.6	14.6
Specialized design services	5414	1,174	21.4	32.9	42.1	35.0	8.2 r	22.0
Computer systems design and related services	5415	11,681	33.9	38.1	61.6	37.7	6.7	15.0
Management, scientific, and technical consulting services	5416	6,676	28.9	32.4	49.5	27.8	11.4	16.3
Scientific research and development services	5417	861	26.5	27.3	56.1	28.3	9.3	28.3
Advertising, public relations, and related services	5418	1,365	28.3	34.9	54.6	40.9	6.9	11.1
Other professional, scientific, and technical services	5419	2,263	37.8	34.5	47.0	24.3	9.9	16.3
Management of companies and enterprises	55	91 r	0.0	D	D	96.7	0.0	0.0
Administrative and support and waste management and remediation services	56	7,687	27.1	37.5	45.2	22.5	6.6	21.6
Educational services	61	1,564	27.6	43.5	39.6	25.8	9.1 r	21.2
Health care and social assistance	62	16,796	24.8	35.2	54.5	17.8	21.1	19.1
Health care services	621–23	15,746	25.7	35.4	55.8	17.9	21.7	17.5
Social assistance	624	1,051	12.0	32.9	35.7	15.9	12.1	43.3
Arts, entertainment, and recreation	71	1,442	17.3 r	35.7	43.6	19.0	7.1 r	34.3
Accommodation and food services	72	8,936	23.5	34.4	46.3	21.3	12.1	20.2
Other services	81	6,055	23.3	36.0	41.8	24.3	13.2	20.7

D = withheld to avoid disclosing data for individual companies; data are included in higher-level totals. r = relative standard error > 50%.

NAICS = 2017 North American Industry Classification System.

Note(s):

Detail may not add to total because of rounding. Detail may exceed total because companies could select more than one response. Industry classification is based on dominant establishment payroll. Statistics are representative of companies located in the United States that reported a low, moderate, or high use of the technology (see Table 84).

Source(s):

National Center for Science and Engineering Statistics and Census Bureau, 2019 Annual Business Survey: Data Year 2018.