

9th pillar

Economic impacts

9.01 Impact of ICTs on business models

In your country, to what extent do ICTs enable new business models? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

RANK	COUNTRY/ECONOMY	VALUE	1	MEAN: 4.5	7	RANK	COUNTRY/ECONOMY	VALUE	1	MEAN: 4.5	7
1	Finland	5.9				71	Cambodia	4.4			
2	United Kingdom	5.9				72	Italy	4.4			
3	Qatar	5.8				73	Kazakhstan	4.4			
4	Netherlands	5.8				74	Bulgaria	4.4			
5	Luxembourg	5.8				75	Cyprus	4.3			
6	Singapore	5.8				76	Brazil	4.3			
7	United Arab Emirates	5.7				77	Uganda	4.3			
8	Switzerland	5.7				78	Croatia	4.3			
9	Sweden	5.6				79	Iran, Islamic Rep.	4.3			
10	Malaysia	5.6				80	Montenegro	4.3			
11	Estonia	5.6				81	Romania	4.2			
12	Ireland	5.6				82	Nigeria	4.2			
13	Norway	5.6				83	Poland	4.2			
14	United States	5.5				84	Namibia	4.2			
15	Israel	5.5				85	Mongolia	4.2			
16	Portugal	5.5				86	Zambia	4.2			
17	Korea, Rep.	5.5				87	Ghana	4.1			
18	Canada	5.5				88	Oman	4.1			
19	New Zealand	5.4				89	India	4.1			
20	Belgium	5.4				90	Pakistan	4.1			
21	Germany	5.4				91	Tunisia	4.1			
22	Iceland	5.4				92	Mali	4.1			
23	Taiwan, China	5.3				93	Cameroon	4.1			
24	Japan	5.3				94	El Salvador	4.1			
25	Austria	5.3				95	Greece	4.0			
26	Hong Kong SAR	5.2				96	Gambia, The	4.0			
27	Lithuania	5.2				97	Russian Federation	4.0			
28	France	5.2				98	Egypt	4.0			
29	Denmark	5.1				99	Paraguay	4.0			
30	Spain	5.1				100	Kuwait	4.0			
31	Chile	5.1				101	Lao PDR	4.0			
32	Rwanda	5.1				102	Georgia	4.0			
33	Saudi Arabia	5.0				103	Tajikistan	3.9			
34	Panama	5.0				104	Mozambique	3.9			
35	Czech Republic	5.0				105	Guyana	3.9			
36	Guatemala	5.0				106	Botswana	3.9			
37	Malta	4.9				107	Serbia	3.9			
38	Bahrain	4.9				108	Madagascar	3.9			
39	Uruguay	4.9				109	Trinidad and Tobago	3.9			
40	Kenya	4.9				110	Seychelles	3.9			
41	Australia	4.9				111	Tanzania	3.8			
42	Thailand	4.8				112	Moldova	3.8			
43	Dominican Republic	4.8				113	Ukraine	3.8			
44	Costa Rica	4.8				114	Benin	3.8			
45	Azerbaijan	4.8				115	Bolivia	3.8			
46	Latvia	4.8				116	Bangladesh	3.8			
47	Indonesia	4.8				117	Lebanon	3.7			
48	Honduras	4.8				118	Albania	3.7			
49	China	4.7				119	Bhutan	3.7			
50	Jordan	4.7				120	Zimbabwe	3.7			
51	Macedonia, FYR	4.7				121	Ethiopia	3.6			
52	Turkey	4.7				122	Bosnia and Herzegovina	3.6			
53	Sri Lanka	4.7				123	Mauritania	3.6			
54	Mexico	4.7				124	Nicaragua	3.6			
55	Senegal	4.6				125	Argentina	3.6			
56	Colombia	4.6				126	Algeria	3.6			
57	Slovak Republic	4.6				127	Lesotho	3.6			
58	Philippines	4.6				128	Liberia	3.5			
59	Hungary	4.6				129	Kyrgyz Republic	3.5			
60	South Africa	4.5				130	Gabon	3.5			
61	Slovenia	4.5				131	Malawi	3.4			
62	Armenia	4.5				132	Nepal	3.4			
63	Morocco	4.5				133	Myanmar	3.2			
64	Ecuador	4.5				134	Swaziland	3.2			
65	Cape Verde	4.5				135	Venezuela	3.2			
66	Mauritius	4.5				136	Guinea	3.2			
67	Peru	4.5				137	Haiti	2.9			
68	Vietnam	4.5				138	Chad	2.8			
69	Jamaica	4.5				139	Burundi	2.7			
70	Côte d'Ivoire	4.4									

SOURCE: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

9.02 PCT ICT patent applications

Number of applications for information and communication technology–related patents filed under the Patent Cooperation Treaty (PCT) per million population | 2012–13 average

RANK	COUNTRY/ECONOMY	VALUE	RANK	COUNTRY/ECONOMY	VALUE
1	Sweden	153.1	71	Egypt	0.2
2	Finland	149.0	72	Sri Lanka	0.2
3	Japan	137.5	73	Argentina	0.2
4	Israel	117.5	74	Tunisia	0.2
5	Korea, Rep.	107.8	75	Thailand	0.2
6	Switzerland	74.6	76	Bahrain	0.2
7	United States	69.8	77	Kuwait	0.1
8	Netherlands	59.1	78	Oman	0.1
9	Singapore	55.8	79	Macedonia, FYR	0.1
10	Germany	52.3	80	Azerbaijan	0.1
11	Denmark	42.1	81	Philippines	0.1
12	Canada	38.2	82	Kenya	0.1
13	Austria	37.3	83	Peru	0.1
14	Norway	36.8	84	Nicaragua	0.1
15	Ireland	34.1	85	Ecuador	0.1
16	France	33.5	86	Albania	0.1
17	United Kingdom	31.1	87	Vietnam	0.1
18	Luxembourg	29.6	88	Dominican Republic	0.0
19	Belgium	28.3	89	Venezuela	0.0
20	Australia	24.0	90	Iran, Islamic Rep.	0.0
21	Qatar	17.1	91	Indonesia	0.0
22	Iceland	16.7	92	Lao PDR	0.0
23	New Zealand	16.1	93	Cambodia	0.0
24	Slovenia	13.0	94	Pakistan	0.0
25	Estonia	9.8	95	Algeria	0.0
26	China	9.5	96	Zimbabwe	0.0
27	Italy	9.4	97	Ethiopia	0.0
28	Spain	9.4	98	Nigeria	0.0
29	Hungary	8.2	99	El Salvador	0.0
30	Malta	6.2	100	Bangladesh	0.0
31	Malaysia	6.0	101	Uganda	0.0
32	Seychelles	5.6	102	Myanmar	0.0
33	Czech Republic	4.3	103	Benin	0.0
34	Lithuania	3.8	103	Bhutan	0.0
35	Cyprus	3.7	103	Bolivia	0.0
36	Latvia	3.5	103	Botswana	0.0
37	Portugal	3.0	103	Burundi	0.0
38	Russian Federation	2.8	103	Cameroon	0.0
39	Greece	2.6	103	Cape Verde	0.0
40	United Arab Emirates	2.4	103	Chad	0.0
41	Bulgaria	2.4	103	Côte d'Ivoire	0.0
42	Slovak Republic	2.2	103	Gabon	0.0
43	Croatia	2.0	103	Ghana	0.0
44	Serbia	1.9	103	Guatemala	0.0
45	Poland	1.8	103	Guinea	0.0
46	Turkey	1.7	103	Guyana	0.0
47	South Africa	1.7	103	Haiti	0.0
48	Saudi Arabia	1.5	103	Honduras	0.0
49	Romania	1.4	103	Kyrgyz Republic	0.0
50	Panama	1.3	103	Lesotho	0.0
51	Ukraine	1.1	103	Liberia	0.0
52	Chile	0.8	103	Madagascar	0.0
53	Montenegro	0.8	103	Malawi	0.0
54	Mauritius	0.8	103	Mali	0.0
55	Georgia	0.7	103	Mauritania	0.0
56	Uruguay	0.6	103	Moldova	0.0
57	Mongolia	0.5	103	Mozambique	0.0
58	Brazil	0.5	103	Namibia	0.0
59	India	0.5	103	Nepal	0.0
60	Costa Rica	0.5	103	Paraguay	0.0
61	Lebanon	0.4	103	Rwanda	0.0
62	Gambia, The	0.4	103	Senegal	0.0
63	Morocco	0.4	103	Swaziland	0.0
64	Jordan	0.4	103	Tajikistan	0.0
65	Jamaica	0.4	103	Tanzania	0.0
66	Armenia	0.4	103	Trinidad and Tobago	0.0
67	Mexico	0.3	103	Zambia	0.0
68	Bosnia and Herzegovina	0.3	n/a	Taiwan, China	n/a
69	Colombia	0.3	n/a	Hong Kong SAR	n/a
70	Kazakhstan	0.2			

SOURCES: World Intellectual Property Organization (WIPO) PCT Data, sourced from Organisation for Economic Co-operation and Development (OECD), Patent Database, January 2016, <http://www.oecd.org/sti/inno/oecdpatentdatabases.htm>; World Bank, World Development Indicators (retrieved December 15, 2015), <http://data.worldbank.org>

9.03 Impact of ICTs on organizational models

In your country, to what extent do ICTs enable new organizational models (e.g., virtual teams, remote working, telecommuting) within companies? [1 = not at all; 7 = to a great extent] | 2014–15 weighted average

RANK	COUNTRY/ECONOMY	VALUE	1	MEAN: 4.2	7	RANK	COUNTRY/ECONOMY	VALUE	1	MEAN: 4.2	7
1	United Kingdom	5.8				71	Romania	4.1			
2	United States	5.8				72	Ukraine	4.1			
3	Finland	5.8				73	Hungary	4.1			
4	Netherlands	5.7				74	Poland	4.0			
5	Estonia	5.6				75	Russian Federation	4.0			
6	Norway	5.6				76	Cyprus	4.0			
7	Qatar	5.6				77	Jamaica	4.0			
8	Malaysia	5.6				78	Brazil	4.0			
9	Sweden	5.5				79	Zambia	3.9			
10	United Arab Emirates	5.5				80	El Salvador	3.9			
11	Singapore	5.5				81	Namibia	3.9			
12	Canada	5.4				82	Cape Verde	3.9			
13	Iceland	5.4				83	Peru	3.9			
14	Ireland	5.4				84	Italy	3.8			
15	Luxembourg	5.3				85	Argentina	3.8			
16	Hong Kong SAR	5.3				86	Morocco	3.8			
17	Switzerland	5.3				87	Guyana	3.8			
18	Germany	5.2				88	Trinidad and Tobago	3.8			
19	Lithuania	5.2				89	Cameroon	3.8			
20	Israel	5.1				90	Egypt	3.7			
21	Taiwan, China	5.1				91	Uganda	3.7			
22	Belgium	5.1				92	Liberia	3.7			
23	New Zealand	5.1				93	Madagascar	3.7			
24	Denmark	5.0				94	Tajikistan	3.7			
25	Australia	5.0				95	Lao PDR	3.7			
26	France	4.9				96	Montenegro	3.7			
27	Portugal	4.9				97	Mali	3.6			
28	Korea, Rep.	4.9				98	Kuwait	3.6			
29	Czech Republic	4.9				99	Oman	3.6			
30	Azerbaijan	4.8				100	Greece	3.6			
31	China	4.7				101	Nigeria	3.6			
32	Austria	4.7				102	Seychelles	3.6			
33	Japan	4.7				103	Ghana	3.6			
34	Guatemala	4.7				104	Moldova	3.6			
35	Honduras	4.6				105	Mongolia	3.5			
36	Latvia	4.6				106	Bangladesh	3.5			
37	Bahrain	4.6				107	Bolivia	3.5			
38	Panama	4.6				108	Iran, Islamic Rep.	3.5			
39	Indonesia	4.6				109	Kyrgyz Republic	3.5			
40	Costa Rica	4.6				110	Benin	3.5			
41	Saudi Arabia	4.6				111	Gambia, The	3.5			
42	Malta	4.6				112	Ethiopia	3.5			
43	Colombia	4.5				113	Tunisia	3.4			
44	Slovak Republic	4.5				114	Serbia	3.4			
45	Spain	4.5				115	Lesotho	3.4			
46	Slovenia	4.4				116	Georgia	3.4			
47	Philippines	4.4				117	Botswana	3.4			
48	Sri Lanka	4.4				118	Mauritania	3.4			
49	Chile	4.4				119	Tanzania	3.4			
50	Thailand	4.4				120	Venezuela	3.4			
51	Dominican Republic	4.4				121	Nepal	3.3			
52	Kenya	4.4				122	Lebanon	3.3			
53	Senegal	4.4				123	Bhutan	3.3			
54	South Africa	4.4				124	Pakistan	3.3			
55	Mexico	4.4				125	Mozambique	3.2			
56	Jordan	4.4				126	Paraguay	3.2			
57	Côte d'Ivoire	4.3				127	Nicaragua	3.2			
58	Uruguay	4.3				128	Bosnia and Herzegovina	3.1			
59	Ecuador	4.3				129	Zimbabwe	3.0			
60	Croatia	4.3				130	Myanmar	3.0			
61	Armenia	4.3				131	Gabon	3.0			
62	Macedonia, FYR	4.3				132	Malawi	3.0			
63	Bulgaria	4.2				133	Algeria	2.9			
64	Cambodia	4.2				134	Albania	2.9			
65	India	4.2				135	Haiti	2.9			
66	Vietnam	4.2				136	Swaziland	2.8			
67	Rwanda	4.2				137	Guinea	2.7			
68	Mauritius	4.2				138	Burundi	2.4			
69	Turkey	4.1				139	Chad	2.2			
70	Kazakhstan	4.1									

SOURCE: World Economic Forum, Executive Opinion Survey, 2014 and 2015 editions

9.04 Share of workforce employed in knowledge-intensive activities (%)

Share of workforce employed in knowledge-intensive activities (%) | 2014 or most recent

RANK	COUNTRY/ECONOMY	VALUE	RANK	COUNTRY/ECONOMY	VALUE
1	Luxembourg	62.3	71	Bangladesh ⁶	20.0
2	Singapore ⁸	52.7	72	Turkey	19.7
3	Switzerland	52.1	73	Pakistan ³	19.5
4	Norway	50.7	74	Mexico	19.5
5	Sweden	49.4	75	Venezuela ⁸	19.2
6	Iceland	48.2	76	Qatar ⁸	18.2
7	Israel	47.7	77	Paraguay	18.1
8	United Kingdom	47.4	78	Botswana ⁵	17.9
9	Netherlands	46.4	79	Kyrgyz Republic	17.9
10	Belgium	46.2	80	Albania	17.7
11	Denmark	45.3	81	Algeria ⁸	17.6
12	Finland	45.2	82	Dominican Republic ⁸	17.2
13	Australia	44.9	83	Iran, Islamic Rep.	17.1
14	Russian Federation	44.2	84	Sri Lanka	16.8
15	France	44.0	85	Bolivia ⁴	15.3
16	Canada	43.7	86	Peru ⁸	15.0
17	Germany	43.5	87	Nicaragua ¹	14.8
18	New Zealand ⁹	42.9	88	Bhutan	14.8
19	Estonia	42.7	89	Namibia ⁸	14.6
20	Lithuania	42.6	90	Thailand	13.8
21	Slovenia	41.7	91	Ecuador	12.3
22	Austria	40.4	92	El Salvador ⁸	12.1
23	Ireland	40.3	93	Colombia ⁸	11.7
24	Latvia	39.6	94	Guatemala	10.9
25	Malta	39.3	95	Vietnam	10.3
26	United States ⁸	38.0	96	Ghana ⁵	9.6
27	Hong Kong SAR	37.9	97	Liberia ⁵	9.3
28	Czech Republic	37.9	98	Indonesia ⁸	8.9
29	Montenegro ⁷	37.2	99	Zambia ⁵	7.3
30	Poland	36.8	100	Morocco ³	6.8
31	Egypt ⁸	36.3	101	Lesotho ⁸	6.8
32	United Arab Emirates ³	36.1	102	Zimbabwe ⁶	6.6
33	Cyprus	35.8	103	Nepal ³	4.3
34	Croatia	35.7	104	Cambodia ⁵	4.1
35	Italy	35.6	105	Uganda ⁸	4.1
36	Hungary	35.3	106	Ethiopia ⁸	3.8
37	Portugal	34.8	107	Rwanda ⁷	3.8
38	Ukraine ⁸	33.7	108	Madagascar ⁷	3.5
39	Taiwan, China ⁸	33.3	109	Tanzania ¹	2.6
40	Spain	33.1	110	Guinea ⁵	0.7
41	Kazakhstan ⁸	32.3	n/a	Bahrain	n/a
42	Slovak Republic	31.9	n/a	Benin	n/a
43	Bulgaria	31.9	n/a	Bosnia and Herzegovina	n/a
44	Lebanon ²	31.8	n/a	Burundi	n/a
45	Greece	30.6	n/a	Cameroon	n/a
46	Serbia	29.1	n/a	Cape Verde	n/a
47	Moldova	28.7	n/a	Chad	n/a
48	Saudi Arabia	28.1	n/a	China	n/a
49	Trinidad and Tobago	27.7	n/a	Côte d'Ivoire	n/a
50	Armenia ⁶	26.9	n/a	Gabon	n/a
51	Macedonia, FYR	26.3	n/a	Gambia, The	n/a
52	Seychelles ⁶	26.3	n/a	Guyana	n/a
53	Malaysia	25.2	n/a	Haiti	n/a
54	Costa Rica ⁸	25.0	n/a	Honduras	n/a
55	Mongolia	25.0	n/a	India	n/a
56	Chile	24.8	n/a	Jordan	n/a
57	South Africa	24.8	n/a	Kenya	n/a
58	Japan	24.4	n/a	Kuwait	n/a
59	Panama	24.0	n/a	Lao PDR	n/a
60	Argentina	23.9	n/a	Malawi	n/a
61	Philippines	23.5	n/a	Mali	n/a
62	Azerbaijan	23.4	n/a	Mauritania	n/a
63	Georgia ²	22.2	n/a	Mozambique	n/a
64	Brazil	21.6	n/a	Myanmar	n/a
65	Korea, Rep.	21.6	n/a	Nigeria	n/a
66	Romania	21.5	n/a	Oman	n/a
67	Uruguay	20.9	n/a	Senegal	n/a
68	Tunisia ⁷	20.9	n/a	Swaziland	n/a
69	Mauritius ⁷	20.4	n/a	Tajikistan	n/a
70	Jamaica ³	20.1			

SOURCE: International Labour Organization (ILO), ILOSTAT Database (retrieved January 5, 2016), <http://www.ilo.org/ilostat>

¹ 2006 ² 2007 ³ 2008 ⁴ 2009 ⁵ 2010 ⁶ 2011 ⁷ 2012 ⁸ 2013