

9.01 Impact of ICTs on new services and products*

In your country, to what extent do ICTs enable new business models? [1 = not at all; 7 = to a great extent] | 2012–2013 weighted average

RANK	COUNTRY/ECONOMY	VALUE	1	4.3	7	RANK	COUNTRY/ECONOMY	VALUE	1	4.3	7
1	Finland	5.8				75	Ghana	4.3			
2	Korea, Rep.	5.7				76	Cyprus	4.3			
3	Sweden	5.7				77	Cambodia	4.3			
4	United Arab Emirates	5.6				78	Czech Republic	4.3			
5	Luxembourg	5.6				79	Cape Verde	4.3			
6	United Kingdom	5.6				80	Kazakhstan	4.3			
7	Netherlands	5.5				81	Macedonia, FYR	4.2			
8	Qatar	5.5				82	Paraguay	4.2			
9	Estonia	5.5				83	Ecuador	4.2			
10	Singapore	5.5				84	Slovak Republic	4.2			
11	Norway	5.4				85	Jamaica	4.2			
12	Taiwan, China	5.4				86	Morocco	4.2			
13	Malaysia	5.4				87	Seychelles	4.2			
14	Ireland	5.4				88	El Salvador	4.1			
15	Germany	5.3				89	Burkina Faso	4.1			
16	United States	5.3				90	Uganda	4.1			
17	New Zealand	5.3				91	Bosnia and Herzegovina	4.1			
18	Switzerland	5.3				92	Mongolia	4.1			
19	Hong Kong SAR	5.3				93	Guyana	4.1			
20	Japan	5.2				94	Namibia	4.1			
21	France	5.2				95	Côte d'Ivoire	4.0			
22	Australia	5.1				96	Tunisia	4.0			
23	Portugal	5.1				97	Cameroon	4.0			
24	Saudi Arabia	5.1				98	Pakistan	4.0			
25	Malta	5.1				99	Benin	4.0			
26	Israel	5.1				100	Zimbabwe	3.9			
27	Spain	5.1				101	Egypt	3.9			
28	Canada	5.1				102	Georgia	3.9			
29	Chile	5.0				103	Romania	3.9			
30	Belgium	5.0				104	Bulgaria	3.9			
31	Iceland	5.0				105	Poland	3.9			
32	Lithuania	5.0				106	Iran, Islamic Rep.	3.9			
33	Denmark	4.9				107	Bolivia	3.9			
34	Rwanda	4.9				108	Tanzania	3.9			
35	Jordan	4.9				109	Honduras	3.9			
36	Austria	4.9				110	Bhutan	3.9			
37	Panama	4.9				111	Italy	3.8			
38	Indonesia	4.9				112	Bangladesh	3.8			
39	Vietnam	4.8				113	Russian Federation	3.8			
40	India	4.8				114	Madagascar	3.8			
41	Kenya	4.8				115	Malawi	3.7			
42	Philippines	4.8				116	Argentina	3.7			
43	Azerbaijan	4.8				117	Moldova	3.7			
44	Puerto Rico	4.8				118	Trinidad and Tobago	3.7			
45	Costa Rica	4.8				119	Suriname	3.7			
46	Armenia	4.7				120	Botswana	3.6			
47	South Africa	4.7				121	Albania	3.6			
48	Sri Lanka	4.7				122	Mozambique	3.6			
49	Bahrain	4.7				123	Sierra Leone	3.6			
50	Oman	4.7				124	Serbia	3.6			
51	Brazil	4.7				125	Ukraine	3.6			
52	China	4.6				126	Nicaragua	3.5			
53	Turkey	4.6				127	Gabon	3.5			
54	Senegal	4.6				128	Venezuela	3.5			
55	Mexico	4.6				129	Greece	3.5			
56	Nigeria	4.6				130	Swaziland	3.5			
57	Dominican Republic	4.6				131	Nepal	3.5			
58	Guatemala	4.6				132	Ethiopia	3.4			
59	Mauritius	4.6				133	Liberia	3.4			
60	Uruguay	4.6				134	Lebanon	3.4			
61	Gambia, The	4.6				135	Kuwait	3.3			
62	Colombia	4.5				136	Guinea	3.3			
63	Mali	4.5				137	Angola	3.3			
64	Croatia	4.5				138	Kyrgyz Republic	3.3			
65	Hungary	4.5				139	Haiti	3.2			
66	Brunei Darussalam	4.5				140	Myanmar	3.1			
67	Thailand	4.4				141	Mauritania	3.1			
68	Latvia	4.4				142	Lesotho	3.0			
69	Slovenia	4.4				143	Timor-Leste	2.9			
70	Zambia	4.4				144	Burundi	2.9			
71	Montenegro	4.4				145	Algeria	2.9			
72	Peru	4.4				146	Yemen	2.8			
73	Lao PDR	4.3				147	Chad	2.8			
74	Barbados	4.3				148	Libya	2.5			

SOURCE: World Economic Forum, Executive Opinion Survey, 2012 and 2013 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 | 2010–2011 average

RANK	COUNTRY/ECONOMY	VALUE	RANK	COUNTRY/ECONOMY	VALUE
1	Japan ¹	118.9	75	Azerbaijan ¹	0.1
2	Finland ¹	110.1	76	Colombia ¹	0.1
3	Sweden ¹	88.8	77	Jordan ¹	0.1
4	Korea, Rep. ¹	87.8	78	Peru ¹	0.1
5	Israel ¹	79.4	79	Sri Lanka ¹	0.1
6	Switzerland ¹	61.6	80	Dominican Republic ¹	0.0
7	Netherlands ¹	55.8	81	Kenya ¹	0.0
8	United States ¹	51.6	82	Senegal ¹	0.0
9	Singapore ¹	51.1	83	Algeria ¹	0.0
10	Germany ¹	46.0	84	Iran, Islamic Rep. ¹	0.0
11	Denmark ¹	38.0	85	Tanzania ¹	0.0
12	Canada ¹	31.4	86	Vietnam ¹	0.0
13	Austria ¹	31.0	87	Cameroon ¹	0.0
14	France ¹	30.6	88	Indonesia ¹	0.0
15	Ireland ¹	29.9	89	Venezuela ¹	0.0
16	Norway ¹	28.5	90	Pakistan ¹	0.0
17	Belgium ¹	25.4	91	Nigeria ¹	0.0
18	United Kingdom ¹	25.1	92	Bangladesh ¹	0.0
19	Luxembourg ¹	23.0	93	Albania ¹	0.0
20	Australia ¹	20.1	93	Angola ¹	0.0
21	Iceland ¹	13.9	93	Barbados ¹	0.0
22	Estonia ¹	11.8	93	Benin ¹	0.0
23	New Zealand ¹	11.8	93	Bhutan ¹	0.0
24	Slovenia ¹	8.7	93	Bolivia ¹	0.0
25	Spain ¹	8.4	93	Botswana ¹	0.0
26	Italy ¹	8.2	93	Burkina Faso ¹	0.0
27	Malaysia ¹	6.2	93	Burundi ¹	0.0
28	China ¹	4.9	93	Cambodia ¹	0.0
29	Hungary ¹	4.8	93	Cape Verde ¹	0.0
30	Portugal ¹	3.4	93	Chad ¹	0.0
31	Qatar ¹	2.9	93	Côte d'Ivoire ¹	0.0
32	Czech Republic ¹	2.3	93	Ecuador ¹	0.0
33	Saudi Arabia ¹	2.0	93	El Salvador ¹	0.0
34	Russian Federation ¹	1.5	93	Ethiopia ¹	0.0
35	Slovak Republic ¹	1.5	93	Gabon ¹	0.0
36	Lithuania ¹	1.5	93	Gambia, The ¹	0.0
37	Croatia ¹	1.4	93	Ghana ¹	0.0
38	Greece ¹	1.4	93	Guatemala ¹	0.0
39	South Africa ¹	1.4	93	Guinea ¹	0.0
40	Poland ¹	1.3	93	Guyana ¹	0.0
41	Brunei Darussalam ¹	1.2	93	Haiti ¹	0.0
42	Malta ¹	1.2	93	Honduras ¹	0.0
43	Bulgaria ¹	1.1	93	Jamaica ¹	0.0
44	United Arab Emirates ¹	1.1	93	Kyrgyz Republic ¹	0.0
45	Latvia ¹	1.0	93	Lao PDR ¹	0.0
46	Panama ¹	0.9	93	Lesotho ¹	0.0
47	Ukraine ¹	0.8	93	Liberia ¹	0.0
48	Romania ¹	0.7	93	Libya ¹	0.0
49	Turkey ¹	0.6	93	Macedonia, FYR ¹	0.0
50	Lebanon ¹	0.6	93	Madagascar ¹	0.0
51	Chile ¹	0.5	93	Malawi ¹	0.0
52	Bahrain ¹	0.5	93	Mali ¹	0.0
53	Armenia ¹	0.5	93	Mauritania ¹	0.0
54	Moldova ¹	0.4	93	Mauritius ¹	0.0
55	India ¹	0.4	93	Mongolia ¹	0.0
56	Uruguay ¹	0.4	93	Montenegro ¹	0.0
57	Georgia ¹	0.4	93	Mozambique ¹	0.0
58	Brazil ¹	0.4	93	Myanmar ¹	0.0
59	Serbia ¹	0.4	93	Namibia ¹	0.0
60	Costa Rica ¹	0.3	93	Nepal ¹	0.0
61	Argentina ¹	0.3	93	Nicaragua ¹	0.0
62	Timor-Leste ¹	0.3	93	Paraguay ¹	0.0
63	Tunisia ¹	0.2	93	Rwanda ¹	0.0
64	Bosnia and Herzegovina ¹	0.2	93	Seychelles ¹	0.0
65	Kazakhstan ¹	0.2	93	Sierra Leone ¹	0.0
66	Mexico ¹	0.2	93	Suriname ¹	0.0
67	Oman ¹	0.2	93	Swaziland ¹	0.0
68	Kuwait ¹	0.2	93	Uganda ¹	0.0
69	Thailand ¹	0.2	93	Yemen ¹	0.0
70	Egypt ¹	0.2	93	Zambia ¹	0.0
71	Trinidad and Tobago ¹	0.2	93	Zimbabwe ¹	0.0
72	Morocco ¹	0.1	n/a	Hong Kong SAR	n/a
73	Cyprus ¹	0.1	n/a	Puerto Rico	n/a
74	Philippines ¹	0.1	n/a	Taiwan, China	n/a

SOURCES: Organisation for Economic Co-operation and Development (OECD), *Patent Database*, January 2014; World Bank, *World Development Indicators Online* (retrieved December 20, 2013)

¹ 2010–2011 average

9.03 Impact of ICTs on new organizational models*

In your country, to what extent do ICTs enable new organizational models (e.g., virtual teams, remote working, telecommuting) within businesses? [1 = not at all; 7 = to a great extent] | 2012–2013 weighted average

RANK	COUNTRY/ECONOMY	VALUE	1	4.1	7	RANK	COUNTRY/ECONOMY	VALUE	1	4.1	7
1	Finland	5.7				75	Guyana	4.1			
2	Qatar	5.5				76	Barbados	4.1			
3	Estonia	5.5				77	Zambia	4.1			
4	Sweden	5.4				78	Egypt	4.0			
5	Netherlands	5.4				79	El Salvador	4.0			
6	United Kingdom	5.4				80	Nigeria	4.0			
7	United States	5.3				81	Bosnia and Herzegovina	4.0			
8	Norway	5.3				82	Cyprus	4.0			
9	United Arab Emirates	5.3				83	Slovak Republic	4.0			
10	Taiwan, China	5.3				84	Cape Verde	4.0			
11	Singapore	5.3				85	Paraguay	4.0			
12	Malaysia	5.3				86	Thailand	4.0			
13	Canada	5.1				87	Tunisia	3.9			
14	Luxembourg	5.1				88	Argentina	3.9			
15	Ireland	5.1				89	Ghana	3.9			
16	Korea, Rep.	5.1				90	Macedonia, FYR	3.9			
17	Germany	5.1				91	Uganda	3.9			
18	Hong Kong SAR	5.1				92	Pakistan	3.9			
19	Israel	5.0				93	Russian Federation	3.9			
20	New Zealand	5.0				94	Honduras	3.8			
21	Australia	4.9				95	Trinidad and Tobago	3.8			
22	Iceland	4.9				96	Poland	3.8			
23	Saudi Arabia	4.9				97	Tanzania	3.7			
24	Azerbaijan	4.9				98	Namibia	3.7			
25	Lithuania	4.9				99	Seychelles	3.7			
26	Puerto Rico	4.9				100	Bolivia	3.7			
27	Portugal	4.8				101	Morocco	3.7			
28	Philippines	4.8				102	Bulgaria	3.7			
29	Denmark	4.8				103	Côte d'Ivoire	3.7			
30	Belgium	4.8				104	Senegal	3.7			
31	Switzerland	4.8				105	Madagascar	3.7			
32	Malta	4.8				106	Malawi	3.6			
33	Spain	4.7				107	Iran, Islamic Rep.	3.6			
34	Jordan	4.7				108	Cameroon	3.6			
35	China	4.7				109	Moldova	3.6			
36	Armenia	4.7				110	Zimbabwe	3.6			
37	Japan	4.7				111	Venezuela	3.6			
38	Chile	4.7				112	Mongolia	3.6			
39	Costa Rica	4.6				113	Swaziland	3.6			
40	India	4.6				114	Bhutan	3.6			
41	Indonesia	4.6				115	Romania	3.6			
42	France	4.6				116	Nicaragua	3.6			
43	Brazil	4.5				117	Georgia	3.5			
44	Dominican Republic	4.5				118	Suriname	3.5			
45	Sri Lanka	4.5				119	Bangladesh	3.5			
46	Bahrain	4.5				120	Burkina Faso	3.5			
47	Panama	4.5				121	Italy	3.5			
48	Austria	4.5				122	Liberia	3.4			
49	Uruguay	4.5				123	Nepal	3.4			
50	South Africa	4.5				124	Albania	3.4			
51	Guatemala	4.5				125	Mozambique	3.4			
52	Kenya	4.5				126	Botswana	3.4			
53	Rwanda	4.4				127	Ukraine	3.3			
54	Brunei Darussalam	4.4				128	Greece	3.3			
55	Peru	4.4				129	Sierra Leone	3.3			
56	Colombia	4.4				130	Ethiopia	3.3			
57	Oman	4.4				131	Serbia	3.2			
58	Mexico	4.4				132	Benin	3.1			
59	Vietnam	4.4				133	Kuwait	3.1			
60	Mauritius	4.3				134	Kyrgyz Republic	3.0			
61	Turkey	4.3				135	Myanmar	3.0			
62	Cambodia	4.3				136	Haiti	3.0			
63	Jamaica	4.3				137	Angola	2.9			
64	Gambia, The	4.3				138	Lebanon	2.9			
65	Latvia	4.2				139	Timor-Leste	2.9			
66	Ecuador	4.2				140	Algeria	2.9			
67	Croatia	4.2				141	Yemen	2.9			
68	Slovenia	4.2				142	Guinea	2.9			
69	Mali	4.2				143	Libya	2.9			
70	Lao PDR	4.2				144	Mauritania	2.9			
71	Kazakhstan	4.2				145	Lesotho	2.7			
72	Montenegro	4.2				146	Gabon	2.7			
73	Czech Republic	4.1				147	Burundi	2.6			
74	Hungary	4.1				148	Chad	2.6			

SOURCE: World Economic Forum, Executive Opinion Survey, 2012 and 2013 editions

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

Share of workforce employed in knowledge-intensive activities (%) | 2012

RANK	COUNTRY/ECONOMY	VALUE	RANK	COUNTRY/ECONOMY	VALUE
1	Luxembourg	57.2	75	Brazil	20.5
2	Singapore ¹⁰	51.0	76	Mauritius	20.4
3	Switzerland	49.8	77	Turkey	20.2
4	Sweden	47.6	78	Jamaica ¹⁰	20.1
5	United Kingdom	47.2	79	Pakistan ¹⁰	19.5
6	Iceland	46.9	80	Algeria ⁶	19.1
7	Norway	46.0	81	Sri Lanka ¹²	19.1
8	Netherlands	45.9	82	Kuwait ⁷	18.7
9	Denmark	45.2	83	Venezuela	18.6
10	France	44.8	84	Kyrgyz Republic	17.6
11	Belgium	44.6	85	Dominican Republic	17.3
12	Finland	43.9	86	Botswana ⁸	17.1
13	Canada	43.8	87	Yemen ⁷	17.0
14	Germany	43.5	88	Namibia ⁶	16.9
15	New Zealand ¹⁰	42.9	89	Colombia ¹²	16.8
16	Australia ¹⁰	42.9	90	Bhutan ¹²	16.5
17	Russian Federation	42.8	91	Ethiopia ¹³	15.9
18	Lithuania	42.8	92	Paraguay	15.4
19	Israel	42.4	93	Iran, Islamic Rep. ¹¹	15.3
20	Estonia	41.8	94	Peru	15.3
21	Slovenia	41.4	95	Bolivia ¹¹	15.3
22	Ireland	41.2	96	Nicaragua ⁸	14.8
23	Malta	39.7	97	Mexico	14.7
24	Latvia	39.5	98	Ecuador	14.6
25	Austria	38.5	99	Albania	13.7
26	Czech Republic	37.3	100	Honduras ⁷	12.8
27	Montenegro	37.2	101	Guyana ⁴	12.7
28	United States ¹⁰	36.3	102	El Salvador	11.9
29	Hong Kong SAR ¹²	36.2	103	Thailand	10.9
30	United Arab Emirates ¹⁰	36.1	104	Guatemala	9.4
31	Hungary	35.4	105	Liberia ¹²	9.3
32	Poland	35.1	106	Indonesia ¹²	8.6
33	Cyprus	35.0	107	Vietnam ⁶	7.4
34	Italy	34.5	108	China ⁷	7.4
35	Egypt	34.0	109	Bangladesh ⁷	7.3
36	Ukraine	33.9	110	Zambia ¹²	7.3
37	Taiwan, China ¹⁰	33.7	111	Morocco ¹⁰	6.8
38	Slovak Republic	32.9	112	Zimbabwe ¹³	6.6
39	Spain	32.5	113	Lesotho ¹	6.0
40	Croatia	32.3	114	Nepal ³	4.8
41	Puerto Rico ¹⁰	31.9	115	Uganda ¹¹	4.4
42	Lebanon ⁹	31.9	116	Madagascar ¹²	2.9
43	Moldova	31.3	117	Tanzania ⁸	2.6
44	Greece	31.1	118	Cambodia ⁶	2.5
45	Portugal	31.0	119	Guinea ¹²	0.7
46	Serbia	30.4	n/a	Angola	n/a
47	Barbados ⁶	30.3	n/a	Benin	n/a
48	Macedonia, FYR	29.6	n/a	Bosnia and Herzegovina	n/a
49	Bulgaria	29.6	n/a	Burkina Faso	n/a
50	Kazakhstan ¹²	29.3	n/a	Burundi	n/a
51	Brunei Darussalam ⁵	28.4	n/a	Cameroon	n/a
52	Malaysia ¹²	27.5	n/a	Cape Verde	n/a
53	Seychelles ¹³	26.4	n/a	Chad	n/a
54	South Africa	25.3	n/a	Côte d'Ivoire	n/a
55	Trinidad and Tobago ¹²	25.0	n/a	Gabon	n/a
56	Argentina ¹²	25.0	n/a	Gambia, The	n/a
57	Japan	24.9	n/a	Ghana	n/a
58	Panama	24.4	n/a	Haiti	n/a
59	Oman ²	24.3	n/a	India	n/a
60	Azerbaijan ¹²	24.2	n/a	Jordan	n/a
61	Qatar ⁹	24.2	n/a	Kenya	n/a
62	Armenia ³	24.1	n/a	Lao PDR	n/a
63	Chile	24.1	n/a	Libya	n/a
64	Mongolia ¹²	24.0	n/a	Malawi	n/a
65	Costa Rica	23.9	n/a	Mali	n/a
66	Uruguay ¹³	23.1	n/a	Mauritania	n/a
67	Saudi Arabia ¹⁰	22.9	n/a	Mozambique	n/a
68	Philippines	22.5	n/a	Myanmar	n/a
69	Georgia ⁹	22.2	n/a	Nigeria	n/a
70	Romania	22.2	n/a	Rwanda	n/a
71	Suriname ⁶	21.6	n/a	Senegal	n/a
72	Korea, Rep. ¹²	21.5	n/a	Sierra Leone	n/a
73	Tunisia	20.9	n/a	Swaziland	n/a
74	Bahrain ¹⁰	20.7	n/a	Timor-Leste	n/a

SOURCE: Authors' calculations based on International Labour Organization ILOSTAT Database (retrieved November 29, 2013)

¹ 1999 ² 2000 ³ 2001 ⁴ 2002 ⁵ 2003 ⁶ 2004 ⁷ 2005 ⁸ 2006 ⁹ 2007 ¹⁰ 2008 ¹¹ 2009 ¹² 2010 ¹³ 2011