



UNCTAD ESTIMATES OF GLOBAL E-COMMERCE 2018

UNCTAD Technical Notes on ICT for Development

N° 15



UNITED NATIONS

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1 Global e-commerce continued to grow in 2018

1.1 New methodology for estimating e-commerce value

Measuring the value of electronic commerce remains a challenge. Although more governments are now collecting information on e-commerce, most countries still do not publish official statistics in this area. Those that publish data on the value of e-commerce sometimes do not follow international guidelines and statistics are often revised.

To take account of recent developments, UNCTAD has adapted its methodology for estimating global e-commerce. Due to the changes to the methodology as well as country revisions to their 2017 data, e-commerce estimates presented in this note are not directly comparable with estimates published by UNCTAD in previous years.¹ Many more countries publish business to consumer (B2C) than business to business (B2B) e-commerce value data. Global B2C e-commerce value is estimated based on the GDP share of the countries with B2C value data. These countries accounted for 92% of global GDP in 2018. Global e-commerce sales are estimated based on the ratio of B2C to total e-commerce for those countries with data on total e-commerce, which represented 71% of global GDP in 2018.

1.2 E-commerce sales up eight per cent in 2018, led by B2C sales

UNCTAD estimates that the global value of e-commerce sales (B2B and B2C) reached almost \$26 trillion in 2018, accounting for 30% of GDP and representing an increase of 8% from 2017 (\$23.8 trillion based on revised methodology) (see Table 1). The United States remains by far the largest e-commerce market. The value of global B2B e-commerce was \$21 trillion, representing 83% of all e-commerce, including includes both sales over online market platforms and electronic data interchange transactions. B2C e-commerce value was \$4.4 trillion in 2018, increasing by 16% over 2017. The top three countries by B2C e-commerce sales were China, the United States and the United Kingdom.

¹ The adjusted methodology implied a downward revision of global overall and B2B e-commerce sales and a slight (2%) downward adjustment of global B2C e-commerce. For more information on methodology and sources, see last section in this note.

Table 1: E-commerce sales: Top ten countries by 2018

Rank	Economy	Total e-commerce sales (\$ billion)	Share of total e-commerce sales in GDP (%)	B2B e-commerce sales (\$ billion)	Share of B2B e-commerce sales in total e-commerce (%)	B2C e-commerce sales (\$ billion)
1	United States	8,640	42	7,542	87	1,098
2	Japan	3,280	66	3,117	95	163
3	China	2,304	17	943	41	1,361
4	Korea (Rep.)	<i>1,364</i>	84	<i>1,263</i>	93	102
5	United Kingdom	918	32	652	71	266
6	France	807	29	687	85	121
7	Germany	722	18	620	86	101
8	Italy	<i>394</i>	19	<i>362</i>	92	32
9	Australia	348	24	326	94	21
10	Spain	333	23	261	78	72
	10 above	19,110	35	15,772	83	3,338
	World	25,648	30	21,258		4,390

Source: UNCTAD, based on national sources.

Note: Figures in italics are UNCTAD estimates.

1.3 Top 20 economies by B2C e-commerce sales

Developing and transition economies account for about half of the top 20 economies by B2C e-commerce sales in 2018 (see Table 2). In relation to GDP, B2C e-commerce is the largest in Hong Kong (China), China and the United Kingdom, and the smallest in India, Brazil and the Russian Federation. Among the top 20 economies, the extent to which Internet users engage in online purchases varies considerably. For example, in 2018, 87% of Internet users shopped online in the United Kingdom, as compared with only 14% in Thailand and 11% in India.

Table 2: B2C e-commerce sales: Top 20 economies , 2018

Rank	Economy	B2C e-commerce sales (\$ billion)	Share of B2C e-commerce sales in GDP (%)	Online shoppers (million)	Online shoppers (% of Internet users)
1	China	1,361	10.0	610	73
2	United States	1,091	5.3	189	80
3	United Kingdom	266	9.3	41	87
4	Japan	163	3.3	49	49
5	France	109	3.9	36	75
6	Korea (Rep.)	102	6.3	27	60
7	Germany	101	2.6	54	82
8	Spain	72	5.1	21	62
9	Canada*	44	2.6	24	84
10	Hong Kong, China	38	10.4	2	38
11	Italy	32	1.6	18	47
12	Netherlands	28	3.1	12	84
13	Thailand	27	5.3	5	14
14	Mexico	26	2.1	24	33
15	Ireland	22	5.7	2	70
16	Australia	21	1.5	12	73
17	Russian Federation	20	1.2	30	34
18	Malaysia	19	6.0	15	53
19	India	17	0.6	27	11
20	Brazil	15	0.8	39	34
	20 above	3,574	5.3	1,193	55

Source: UNCTAD, based on sources mentioned in section 3 on methodology and data sources.

Note. Data for some economies are from supply-side surveys that include overseas sales (exports) but not overseas purchases. Data for other economies are from demand-side surveys that include purchases by consumers from overseas (imports) but not foreign sales by companies. Hence the data are not directly comparable and should therefore be interpreted carefully.

1.4 Leading B2C e-commerce companies based mostly in China and United States

The world's top 10 B2C companies in 2018 generated almost \$2 trillion in Gross Merchandise Value (GMV) (Table 3) and are all headquartered in North America or East Asia. Alibaba (China) was far ahead with a GMV of \$866 billion in 2018, followed by Amazon (United States) with \$277 billion. However, in terms of revenue, JD.com (China) and Amazon were ahead of Alibaba.

More than half of the companies earned revenue primarily from goods sold over their platforms. Shopify is a particular case as it provides e-commerce enabled web sites for companies that want to have a direct presence rather than (or in combination with) using a third-party marketplace. Services-based companies figure prominently in the table, particularly those related to travel, such as Expedia and Bookings Holdings (properties include Booking.com, Kayak and Agoda). Ride hailing company Uber generated almost \$50 billion of gross bookings in 2018.

Table 3: Top 10 B2C e-commerce companies by GMV, 2018

Rank	Company	Based in	Industry	B2C revenue (\$ million)	GMV (\$ million)	Margin (%)
1	Alibaba	China	E-commerce	40,383	865,634	4.7
2	Amazon	United States	E-commerce	59,372	277,000	21.4
3	JD.com	China	E-commerce	69,834	253,463	27.6
4	Expedia	United States	Internet Media & Services	11,223	99,727	11.3
5	eBay	United States	E-commerce	10,746	94,580	11.4
6	Booking Holdings	United States	Internet Media & Services	14,527	92,731	15.7
7	Meituan Dianping	China	E-commerce	9,859	77,933	12.7
8	Uber	United States	Internet Media & Services	11,270	49,799	22.6
9	Shopify	Canada	Internet Media & Services	1,073	41,103	2.6
10	Rakuten	Japan	E-commerce	3,740	30,836	12.1
	Top 10			232,028	1,882,806	12.3

Source: UNCTAD, based on company reports.

Note: GMV = Gross Merchandise Volume, Margin = B2C revenue as a share of GMV.

1.5 Cross-border B2C e-commerce

UNCTAD estimates that cross-border B2C e-commerce sales amounted to \$404 billion in 2018, representing an increase of 7% over 2017. This is based on sales for the top ten economies by merchandise exports (Table 4). Cross-border sales are estimated to be almost 10% of total B2C e-commerce sales. In Hong Kong (China) they amounted to 94%, with the majority of B2C e-commerce sales being re-exports from the mainland.

Table 4: Cross border B2C e-commerce sales: Top ten merchandise exporters, 2018

Rank	Economy	Cross-border B2C e-commerce sales (\$ billion)	Share of cross-border B2C e-commerce sales in merchandise exports (%)	Share of cross-border B2C sales in total B2C e-commerce sales (%)
1	China	100	4.0	7.3
2	United States	85	5.1	7.8
3	United Kingdom	40	8.2	15.0
4	Hong Kong, China	35	6.2	94.3
5	Japan	21	2.9	13.1
6	Germany	15	1.0	14.9
7	France	12	2.0	10.6
8	Italy	4	0.8	13.9
9	Korea (Rep.)	3	0.5	3.2
10	Netherlands	1	0.2	4.4
	Ten above	317	3.2	9.6
	World	404	2.1	

Source: UNCTAD estimates based on national sources,

2 More than 1.4 billion people shopped online in 2018

UNCTAD estimates that 1.45 billion people, or one quarter of the world’s population aged 15 and older, made purchases online in 2018 (Figure 1). This is 9% higher than in 2017. China had the largest number of online shoppers at 610 million. While the bulk of online shoppers mainly buy from domestic suppliers, some 330 million online shoppers made cross-border purchases in 2018—a little more than one in five of all online shoppers. The interest in buying from foreign suppliers continued to expand. The share of cross-border online shoppers to all online shoppers rose from 17% in 2016 to 23% in 2018.

Figure 1. Global online shoppers (million), 2016-2018



Source: UNCTAD, based on national data.

3 Methodology and data sources

3.1 Global estimates

Global B2C e-commerce sales were estimated based on the GDP share (92%) of countries with data on B2C e-commerce. Data on total e-commerce were available for countries representing 71% of global GDP. To estimate global e-commerce sales UNCTAD used the ratio of B2C to total e-commerce for those countries.

Global cross-border B2C e-commerce sales were estimated based on the total B2C sales of the top ten merchandise exporters.

Global number of online shoppers was estimated based on the top 25 economies representing 90% of all online shoppers.

3.2 Data sources

GDP and annual average exchange rates were sourced from the World Bank.² Merchandise exports were sourced from the World Trade Organization.³ Company data were sourced from their respective annual financial reports. Sources for the proportion of online shoppers are from national surveys. Sources for data in Tables 1, 2 and 4 are shown below.

3.2.1 Australia

Total e-commerce is sourced from the Australian Bureau of Statistics and refers to Internet income encapsulating all B2B and B2C orders.⁴ Data on B2C e-commerce are from the National Australia Bank.⁵ As the latest Internet income data are from 2017, estimates for 2018 were based on the proportion of B2C in total Internet income.

3.2.2 Brazil

B2C e-commerce sales are from Ebit|Nielsen based on a demand survey.⁶

3.2.3 Canada

Data on B2C e-commerce sales are from Statistics Canada, based on a demand survey.⁷

² <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD> and <https://data.worldbank.org/indicator/PA.NUS.ATLS>

³ <https://timeseries.wto.org>

⁴ Australian Bureau of Statistics. 2018. "8166.0 - Summary of IT Use and Innovation in Australian Business, 2016-17." <https://www.abs.gov.au/ausstats/abs@.nsf/mf/8166.0>

⁵ National Australia Bank. 2019. "NAB Online Retail Sales Index December 2018." <https://business.nab.com.au/wp-content/uploads/2019/02/NAB-Online-Retail-Sales-Index-December-18-.pdf>

⁶ Nielsen. 2019. "E-Commerce Fatura R\$53,2 Bilhões Em 2018, Alta De 12%." *Artigo*, 21 February. <https://www.nielsen.com/br/pt/insights/article/2019/e-commerce-fatura-53-bilhoes-em-2018-alta-de-12-porcento/>

⁷ Statistics Canada. 2019. "Online shopping in Canada, 2018." *Just the Facts*, 2 December. <https://www150.statcan.gc.ca/n1/pub/89-28-0001/2018001/article/00016-eng.htm#data>

3.2.4 China

Official statistics for B2C⁸ and total⁹ e-commerce are available from the Chinese Bureau of Statistics. There are no regularly published official data on the value of cross-border e-commerce, which were derived from Alibaba's export sales.¹⁰ Alibaba had a 64% B2C market share in 2018.

3.2.5 France

Official statistics for e-commerce value are available from the national statistics office.¹¹ Cross-border e-commerce sales were estimated on the basis of exports by non-store online retailers in 2015.¹²

3.2.6 Germany

In Germany, official data consist of only percentage data (i.e., e-commerce as a percentage of turnover) reported by Eurostat. B2C data were sourced from the industry association (BEVH)¹³ and overall e-commerce and B2B sales were based on the percentage of B2C turnover from e-commerce. Cross-border e-commerce was estimated on reported cross-border sales from the second and third largest B2C companies in the country.¹⁴

3.2.7 Hong Kong, China

E-commerce value data are available from the Census and Statistics Department.¹⁵ Cross-border sales were derived by subtracting estimated consumer online spending from B2C sales. B2C e-commerce sales data are based on supply survey.

3.2.8 India

B2C e-commerce value is estimated based on the sales by the top two B2C companies.¹⁶

⁸ Statistical Communiqué of the People's Republic of China on the 2018 National Economic and Social Development. http://www.stats.gov.cn/english/PressRelease/201902/t20190228_1651335.html

⁹ <http://data.stats.gov.cn/english/easyquery.htm?cn=C01>

¹⁰ Alibaba Group Holding Limited. 2019. *Form 20-F*. <https://otp.investis.com/clients/us/alibaba/SEC/sec-show.aspx?Type=html&FilingId=13476929&CIK=0001577552&Index=10000>

¹¹ Insee. 2020. "Les TIC et le commerce électronique dans les entreprises en 2019." <https://www.insee.fr/fr/statistiques/4464231>

¹² Direction générale des douanes et droits indirects. 2016. Le secteur de la vente à distance se développe à l'international." *Etudes et éclairages*, October. https://lekiosque.finances.gouv.fr/fichiers/etudes/tableaux/ee_70.pdf

¹³ BEVH. 2019. "Herzlich Willkommen Zum Jahrespressegespräch 2019."

https://www.bevh.org/fileadmin/content/05_presse/Pressemitteilungen_2019/190122_PK_Pra__sentation_FINAL.pdf

¹⁴ According to EHI Retail Institute, Amazon, Otto and Zalando are the three top e-commerce sites by sales (<https://www.ehi.org/de/top-100-umsatzstaerkste-onlineshops-in-deutschland/>). Otto and Zalando reports were analyzed to determine the share of foreign sales. See: <https://corporate.zalando.com/en/investor-relations> and https://www.ottogroup.com/en/die-otto-group/daten-fakten/Annual_Reports.php.

¹⁵ Census and Statistics Department. 2020. "Report on the Survey on Information Technology Usage and Penetration in the Business Sector for 2019."

<https://www.censtatd.gov.hk/hkstat/sub/sp120.jsp?productCode=B1110005>

¹⁶ Daniel Keyes. 2019. "Flipkart is poised to overtake Amazon in India by 2023." *Business Insider*, 29 March. <https://www.businessinsider.com/flipkart-will-overtake-amazon-india-2019-3?international=true&r=US&IR=T>

3.2.9 Ireland

B2C e-commerce sales are from the Central Bank of Ireland and based on credit card transactions.¹⁷

3.2.10 Italy

B2C value including cross-border sales and purchases was compiled by the School of Management Politecnico di Milano.¹⁸ B2B and total e-commerce were derived from the B2C ratio based on EUROSTAT percentages.

3.2.11 Japan

Official statistics for both B2C and B2B are available from METI.¹⁹ Cross-border sales and purchases are also available from METI but only for trade with China and the United States.

3.2.12 Malaysia

Data on B2C e-commerce sales refer to 2017 and are from the Department of Statistics.²⁰

3.2.13 Mexico

Data on B2C e-commerce sales are from Asociación de Internet MX and based on a demand survey.²¹

3.2.14 Netherlands

The Netherlands is among the top ten merchandise exporters. B2C consumer spending was sourced from the industry association.²² Cross-border sales were estimated based on the export revenue of the second largest online shop.²³

¹⁷ Central Bank of Ireland. 2019. "Credit and Debit Card Statistics – Q4 2018." *Statistical Release*, 14 February. https://www.centralbank.ie/docs/default-source/statistics/data-and-analysis/credit-and-banking-statistics/credit-and-debit-card-statistics/2018q4_ie_credit_debit_cards.pdf?sfvrsn=12

¹⁸ Osservatori Digital Innovation del Politecnico di Milano. 2018. "Ecommerce B2c: Cresce Il Mercato, Ma Anche Il Valore?" https://www.osservatori.net/it_it/osservatori/comunicati-stampa/ecommerce-b2c-crescita-mercato-2018

¹⁹ Ministry of Economy, Trade and Industry (METI). 2019 "Results of FY2018 E-Commerce Market Survey Compiled." *News Release*, 16 May. https://www.meti.go.jp/english/press/2019/0516_003.html

²⁰ Department of Statistics. 2019. "Statistics on Usage of ICT and E-Commerce by Establishment 2018." *Press Release*, 14 May.

<https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=U3FYOHJ3cE90UnNWMWdUaVMzREIKdz09>

²¹ Asociación de Internet MX. 2019. "Estudio de Comercio Electrónico en México 2019." <https://www.asociaciondeinternet.mx/estudios/comercio-electronico>

²² Thuiswinkel. 2019. "Market Monitor 2018." https://www.thuiswinkel.org/data/uploads/marktonderzoeken/thuiswinkel_markt_monitor/Infographic_Thuiswinkel_Markt_Monitor_2018_FY_2018.pdf

²³ Cool Blue. 2019. *Yearbook 2018*. <https://www.coolblue.nl/en/c/yearbook.html>

3.2.15 Republic of Korea

B2C value data including cross-border sales and purchases are available from the national statistical office.²⁴ As it stopped publishing B2B statistics several years ago (last available data are from 2013), total e-commerce was estimated based on the ratio to GDP in 2013 (84%).

3.2.16 Russian Federation

B2C e-commerce sales are estimates by the Ecommerce Foundation.²⁵

3.2.17 Spain

Official value statistics for B2C and B2B are available from the National Statistical Institute.²⁶

3.2.18 Thailand

Data on B2C e-commerce sales are based on figures sourced to the Electronic Transaction Development Agency and based on a supply survey.²⁷

3.2.19 United Kingdom

Official value statistics for B2C and B2B are available from the Office of National Statistics.²⁸ Cross-border data were estimated on the basis of SME online export sales.²⁹

3.2.20 United States

Overall figures for e-commerce in four key industries are published by US Census Bureau (latest data available for 2017).³⁰ These were added together for total e-commerce. B2C e-commerce was derived from retail e-commerce sales and the estimated proportion of B2C in the services

²⁴ Statistics Korea. 2018. *Online Shopping in December and 2018 (Including Overseas Direct Online Sales and Purchases in the Fourth Quarter and 2018)*.

<http://kostat.go.kr/portal/eng/pressReleases/3/5/index.board?bmode=read&bSeq=&aSeq=374375&pageNo=2&rowNum=10&navCount=10&currPg=&searchInfo=&sTarget=title&sTxt=>

²⁵ Ecommerce Foundation. 2019. "Ecommerce Report: Russia 2019."

<https://www.ecommercewiki.org/reports/803/ecommerce-report-russia-2019>

²⁶ Instituto Nacional de Estadística (INE). 2019. "Encuesta de uso de TIC y Comercio Electrónico (CE) en las empresas 2018-2019."

https://www.ine.es/dyngs/INEbase/es/operacion.htm?c=Estadistica_C&cid=1254736176743&menu=resultados&dp=1254735576799

²⁷ Suchit Leesa-Nguansuk. 2019. "E-commerce grows 14%, highest in Asean." *Bangkok Post*, 5 February.

<https://www.bangkokpost.com/business/1623714/e-commerce-grows-14-highest-in-asean>

²⁸ Office of National Statistics (ONS). 2018. "E-commerce and ICT activity, UK: 2018."

<https://www.ons.gov.uk/businessindustryandtrade/itandinternetindustry/bulletins/ecommerceandictactivity/2018>

²⁹ WorldFirst. 2017. *Rise of the Global iStreet*.

https://www.worldfirst.com/downloads/rise_of_the_global_istreet.pdf

³⁰ United States Census Bureau. 2019. *E-Stats 2017: Measuring the Electronic Economy*.

<https://www.census.gov/newsroom/press-releases/2019/estats.html>. Note that the definition of e-commerce revenues for the services industry was revised in 2017 and is not comparable with previous years. See: Census Bureau. "New Data Series for Revenue from Electronic Sources to Replace E-commerce." 20 August 2018.

<https://www.census.gov/programs-surveys/sas/newsroom/updates/new-data-series-for-revenue-from-electronic-sources-to-replace-e.html>

industry total e-commerce (based on the proportion of B2C sales by the service industry in the United Kingdom). Cross border data were estimated based on available bilateral data (i.e., Canada, China, Japan and Republic of Korea).



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