

*Visual Essay*

U.S. Digital Economy: New and Revised Estimates, 2017–2022

December 6, 2023

This article highlights statistics on the digital economy by the U.S. Bureau of Economic Analysis (BEA). The digital economy statistics cover four major categories of goods and services:

1. **Infrastructure**, or the basic physical materials and organizational arrangements that support the existence and use of computer networks and the digital economy, primarily information and communications technology (ICT) goods and services. Infrastructure consists of ICT hardware and software.
2. **E-commerce**, or the remote sale of goods and services over computer networks. E-commerce consists of business-to-consumer e-commerce (that is, retail trade) and business-to-business e-commerce (that is, wholesale trade).
3. **Priced digital services**, or services related to computing and communication that are performed for a fee charged to the consumer. Priced digital services consist of cloud services, telecommunications services, internet and data services, and all other priced digital services.
4. **Federal nondefense digital services**, or the annual budgets for federal nondefense government agencies whose services are directly related to supporting the digital economy.

Key Terms

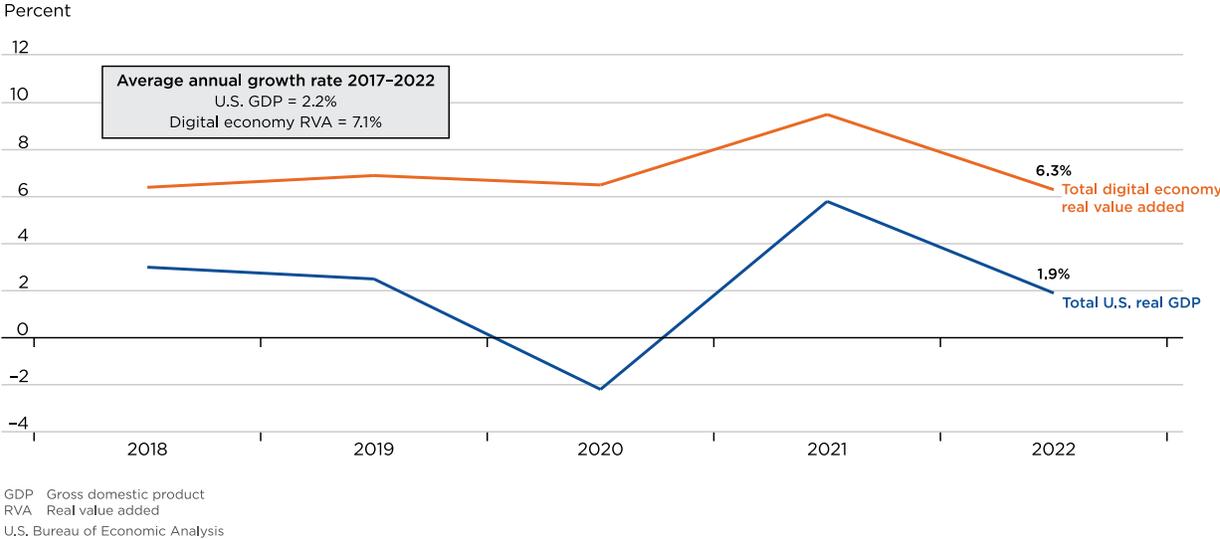
Value added refers to the gross output of an industry or a sector less its intermediate inputs, also known as **gross domestic product (GDP)**. Value added by industry can also be measured as the sum of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.

Gross output refers to the value of the goods and services produced by the nation's economy. It is principally measured using industry sales or receipts, including sales to final users (GDP) and sales to other industries (intermediate inputs).

Real or constant-dollar estimates hold prices constant such that growth rates for real estimates reflect changes in quantities produced, removing the impact of inflation.

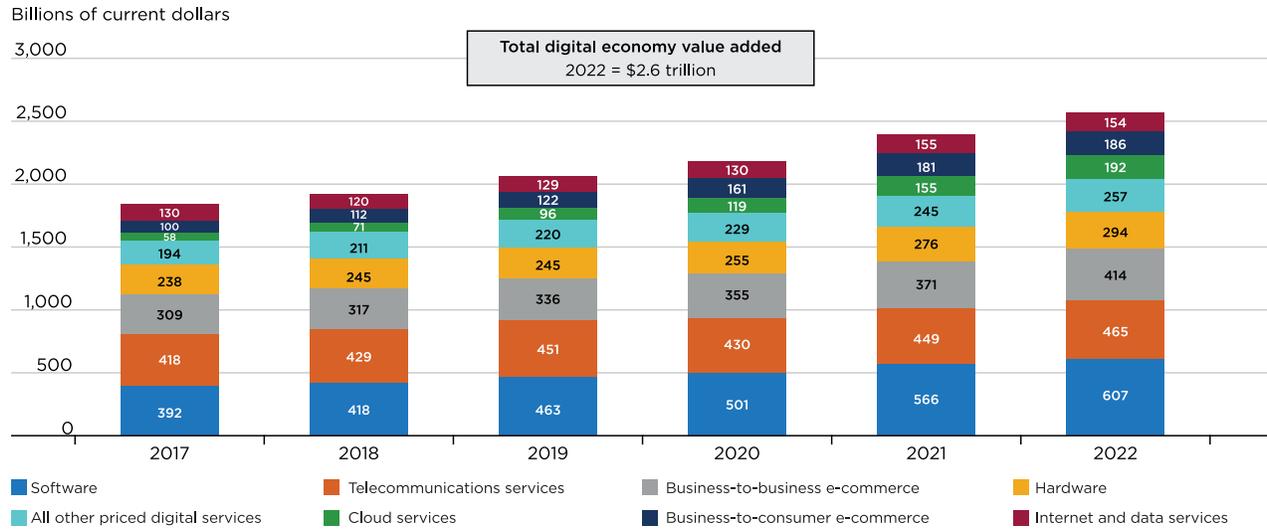
The following charts and tables present highlights of BEA's digital economy statistics for 2017–2022. These statistics introduce new data for 2022 and revised statistics for 2017–2021 that reflect updates from [BEA's 2023 comprehensive update of its National Economic Accounts](#), revisions to U.S. Census Bureau retail and wholesale trade e-commerce data, and revisions to cloud services revenue from the International Data Corporation. The statistics are presented by industry and by activity corresponding to the four categories of goods and services described above. See [BEA's digital economy product page](#) for [detailed data tables](#), more details on methodology, and related research papers.

Chart 1. Annual Growth Rates of Digital Economy Real Value Added Compared to U.S. Real GDP, 2018–2022



- In 2018 through 2022, the real value-added growth of the digital economy outpaced the real GDP growth of the overall economy.
- In 2022, digital economy real value added grew 6.3 percent, compared to total U.S. real GDP growth of 1.9 percent.
- In 2020, while total U.S. real GDP declined 2.2 percent, digital economy real value added grew by 6.5 percent.

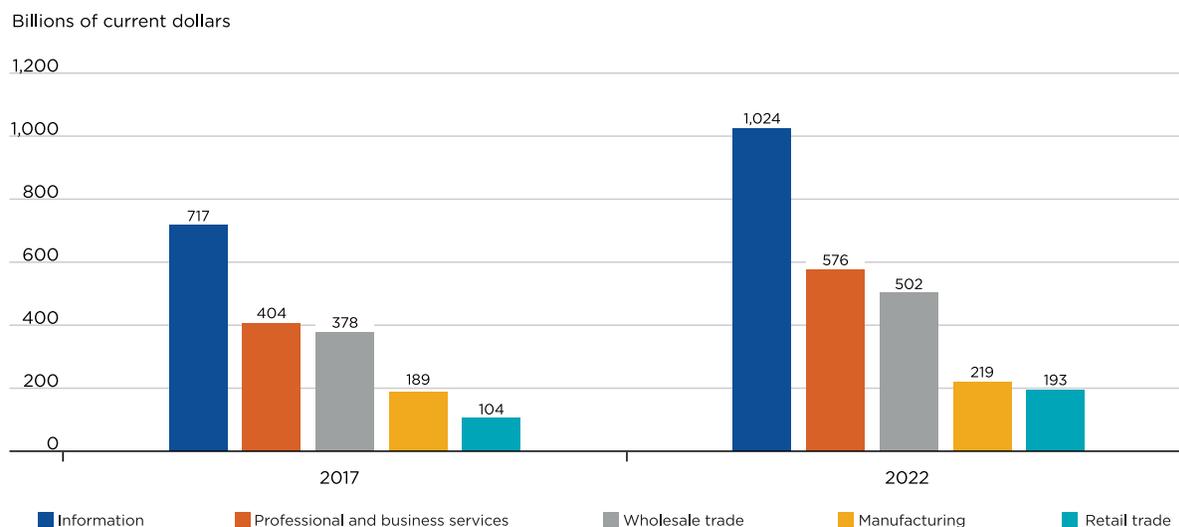
Chart 2. Digital Economy Value Added by Detailed Activity Type, 2017–2022



Note. Federal nondefense digital services is excluded due to its small value (\$300 million in 2022), and therefore all activities shown here will not sum to total digital economy value added.
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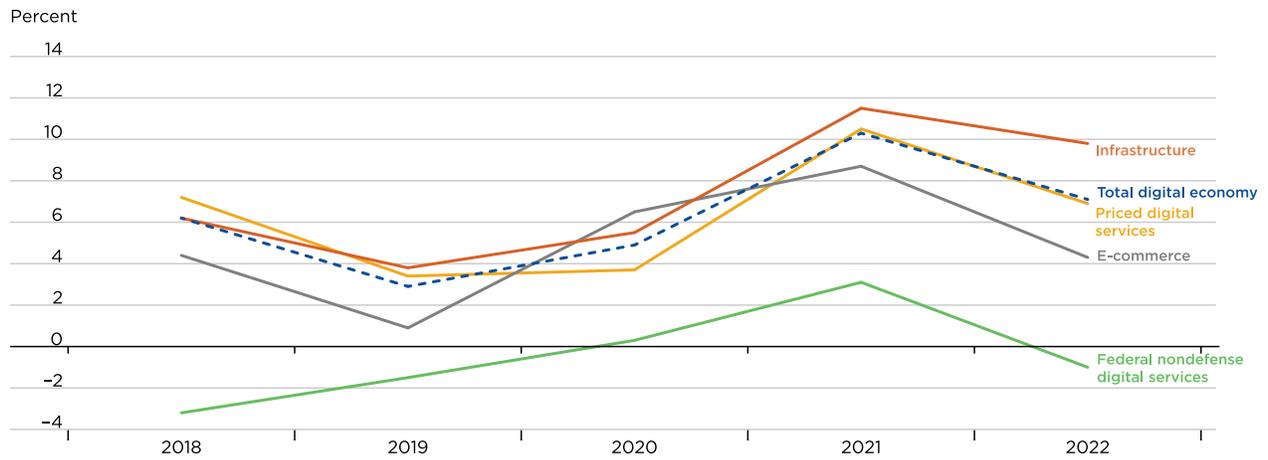
- In 2022, software represented the largest share of value added in the digital economy among the detailed activities, at 24 percent, followed by telecommunication services (18 percent) and business-to-business e-commerce (16 percent).
- While software had the largest increase in current-dollar value added between 2017 and 2022 (\$216 billion), cloud services saw the fastest growth, growing 232.1 percent between 2017 and 2022, with an annual average growth rate of 27.2 percent.

Chart 3. Top Five Sectors Contributing to Digital Economy Value Added, 2017 and 2022



- In both 2017 and 2022, the information sector was the highest contributing sector to digital economy value added, growing from \$717 billion in 2017 to \$1,024 billion in 2022, an average annual growth rate of 7.5 percent.
- Professional and business services was the second-highest contributor to digital economy value added in both 2017 and 2022, followed by wholesale trade, manufacturing, and retail trade.

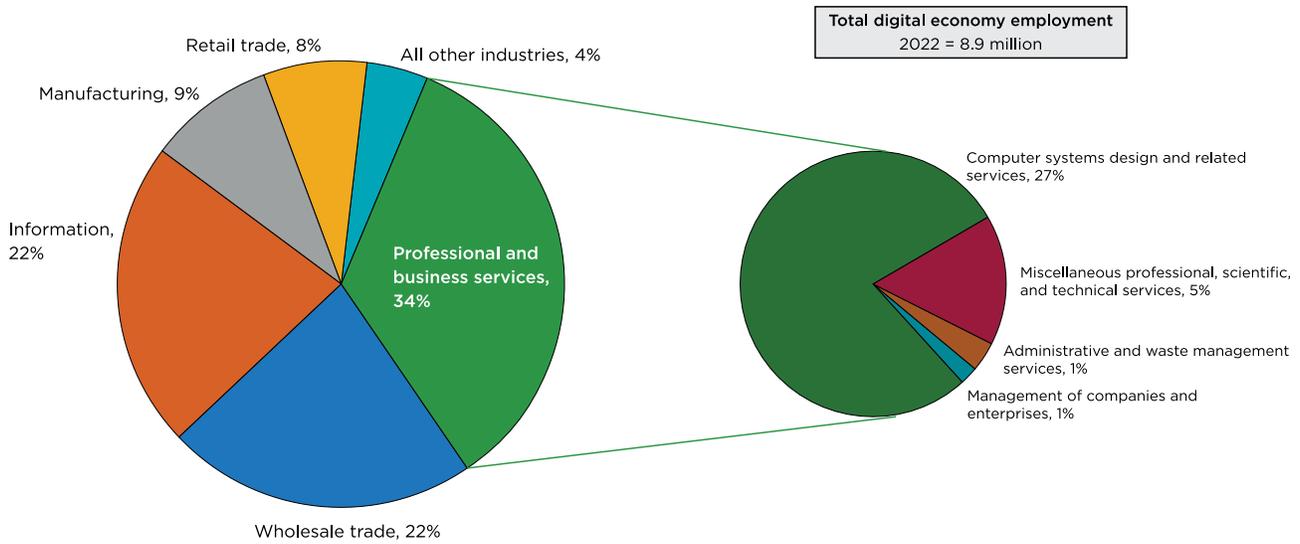
Chart 4. Annual Growth Rates of Real Gross Output by Major Activity, 2018–2022



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- Real gross output of the digital economy grew 7.1 percent in 2022 and grew at an average annual rate of 6.3 percent between 2017 and 2022.
- Infrastructure real gross output grew at the fastest rate in 2022 (9.8 percent), followed by priced digital services (6.9 percent) and e-commerce (4.3 percent). Federal nondefense digital services declined 1.0 percent in 2022.

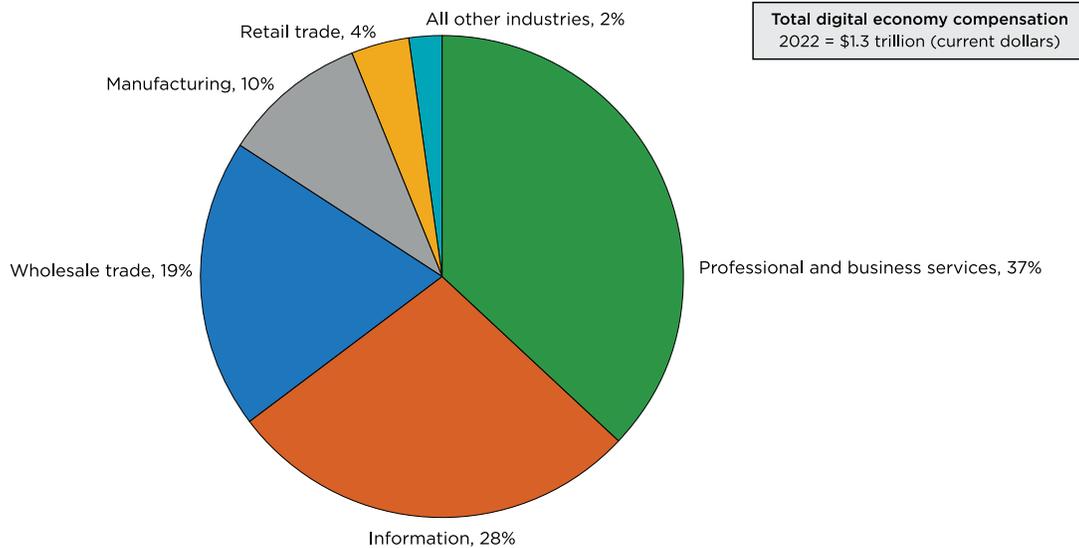
Chart 5. Digital Economy Employment by Industry, 2022



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- The professional and business services sector represented the largest share of total employment in the digital economy in 2022, at 34 percent. Within this sector, computer systems design and related services was the highest contributing industry, representing 27 percent of total digital economy employment.
- The wholesale trade and information sectors each represented the next largest shares, at 22 percent each, followed by manufacturing (9 percent) and retail trade (8 percent). All other industries combined represented 4 percent of total digital economy employment.

Chart 6. Digital Economy Compensation by Industry, 2022



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- The professional and business services sector represented the largest share of total digital economy compensation in 2022, at 37 percent.
- Within the professional and business services sector, the computer systems design and related services industry represented 30 percent of total digital economy compensation.
- The information sector represented the second-largest share of total digital economy compensation in 2022, at 28 percent, followed by wholesale trade (19 percent), manufacturing (10 percent), and retail trade (4 percent). All other sectors combined to represent 2 percent of total compensation.



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