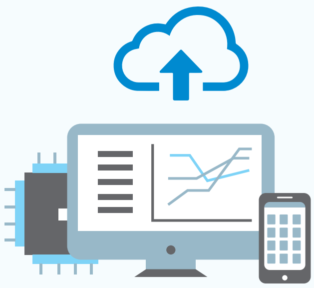
BOX ARTICLE 6.1

Trends in E-commerce in the Services Sector

INTRODUCTION

Electronic commerce (or e-commerce) generally refers to the sale of goods or services through electronic networks such as the internet, and offers benefits for firms adopting it. For instance, firms can leverage e-commerce to transcend geographical barriers to reach a wider market. E-commerce can also reduce the barriers to entry for new firms. Lastly, e-commerce can help firms to achieve a leaner workforce, thereby resulting in productivity gains for firms. This article seeks to examine the trends in e-commerce in the services sector[1] over the period of 2016 to 2018.

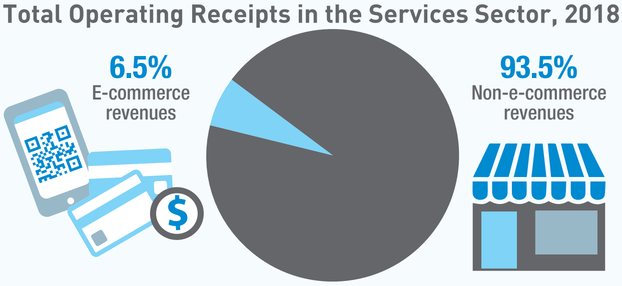


KEY E-COMMERCE TRENDS IN THE SERVICES SECTOR

The contribution of e-commerce revenues to total operating receipts of the services sector has grown over time.

In 2018, total e-commerce revenues for the services sector was $237 billion. This represented approximately 6.5 per cent of the total operating receipts[2] earned by firms in the services sector in 2018, which was higher than the 6.3 per cent registered in 2016. In particular, the e-commerce revenue share was the highest in the information & communications, accommodation and transportation & storage industries.

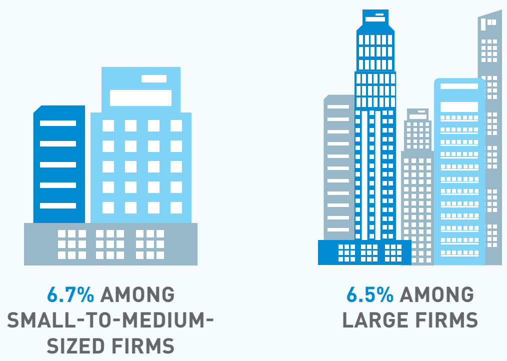
Total Operating Receipts in the Services Sector, 2018



Small-to-medium-sized firms and large firms derived a broadly similar proportion of their operating receipts from e-commerce transactions.

For the services sector as a whole, the e-commerce share of operating receipts for small-to-medium-sized firms was 6.7 per cent in 2018, comparable to the 6.5 per cent for large firms.

E-commerce Revenue Share of Operating Receipts in the Services Sector, 2018



POLICY TAKEAWAY

While most of the industries in the services sector have seen an increase in e-commerce adoption, there is scope for firms across all industries to do more. Through initiatives like the SMEs Go Digital programme, the Government will help firms in their transformation efforts and enable them to take advantage of the vast opportunities that come from digitalisation and e-commerce.

1 In this article, the services sector excludes financial & insurance services and public administration activities.
2 Comprising both e-commerce and non-e-commerce revenue.

TRENDS IN E-COMMERCE IN THE SERVICES SECTOR

This article presents the trends in electronic commerce (or e-commerce) among firms in Singapore's services sector over the period of 2016 to 2018.

E-commerce can bring about benefits to firms

E-commerce generally refers to the sale of goods or services through electronic networks such as the internet. This form of transaction has become more prevalent for both the business-to-consumer (B2C) and business-to-business (B2B) segments in recent years. For instance, it has become more common for consumers to purchase clothes online or book a taxi ride through their mobile devices. Firms are also increasingly sourcing for and purchasing inputs through their suppliers' websites or third-party B2B marketplaces (e.g., Eezee) that connect buyers with suppliers or importers with exporters.

Broadly, firms can derive several benefits from the adoption of e-commerce. First, e-commerce allows firms to transcend geographical barriers to reach a wider market, as customers (including those based overseas) can purchase goods and services without having to be physically present at their stores. Second, e-commerce can reduce the barriers to entry for new firms, as they can save on upfront set-up costs such as rentals. Third, as with other forms of digitalisation, adopting e-commerce can help firms to achieve a leaner workforce as it facilitates the automation of processes such as billing and inventory management, thereby leading to productivity gains for firms. Given the potential benefits of e-commerce, there is a need to better understand the extent of e-commerce adoption by firms in Singapore.

In this article, we examine the trends in e-commerce in the services sector[3] over the period of 2016 to 2018 using e-commerce revenue[4] data from the Annual Survey of Services conducted by the Department of Statistics (DOS).[5]

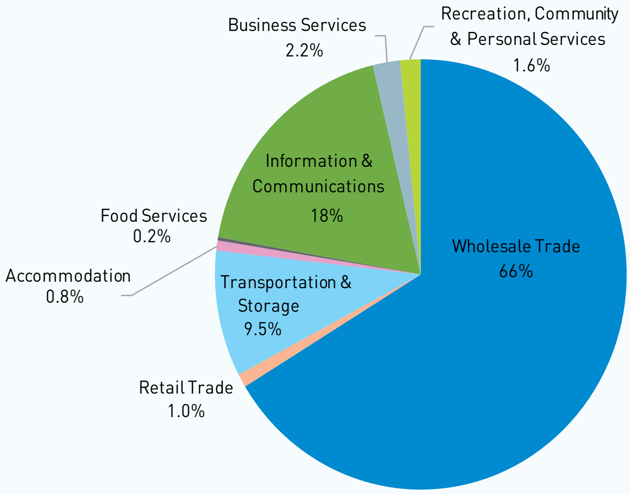
E-commerce revenue accounted for 6.5 per cent of the total operating receipts of the services sector in 2018, with the share having seen a gradual increase since 2016

In 2018, the total amount of e-commerce revenue earned by firms in the services sector was $237 billion, or 6.5 per cent of the total operating receipts[6] of firms in the sector. Within the sector, the top three contributors to e-commerce revenue in 2018 were the wholesale trade (66 per cent), information & communications (18 per cent) and transportation & storage (9.5 per cent) industries [Exhibit 1].

E-commerce penetration (i.e., share of e-commerce revenue to total operating receipts) in the services sector has also increased over time, from 6.3 per cent in 2016 to 6.5 per cent in 2018. This came on the back of a robust 20 per cent increase in e-commerce revenue on a compound annual growth rate (CAGR) basis between 2016 and 2018, a pace that was faster than the 18 per cent CAGR increase seen for non-e-commerce revenue over the same period.

3 *In this article, the services sector excludes financial & insurance services and public administration activities.*
4 *E-commerce revenue refers to the revenue earned from the sale of goods and services, where the seller receives the order or agrees on the price and terms of sale via online means, e.g., through the company's website, third-party websites, mobile applications, extranet or Electronic Data Interchange (e.g., Government Electronic Business, or GeBIZ, in Singapore). Payment and delivery may or may not be made online. Telephone calls, facsimile or manually typed e-mail are excluded from this scope.*
5 *DOS started collecting data on e-commerce in its Annual Survey of Services from 2016 onwards.*
6 *Comprising both e-commerce and non-e-commerce revenue.*

Exhibit 1: Share of Total E-commerce Revenue in Services Sector by Industry, 2018

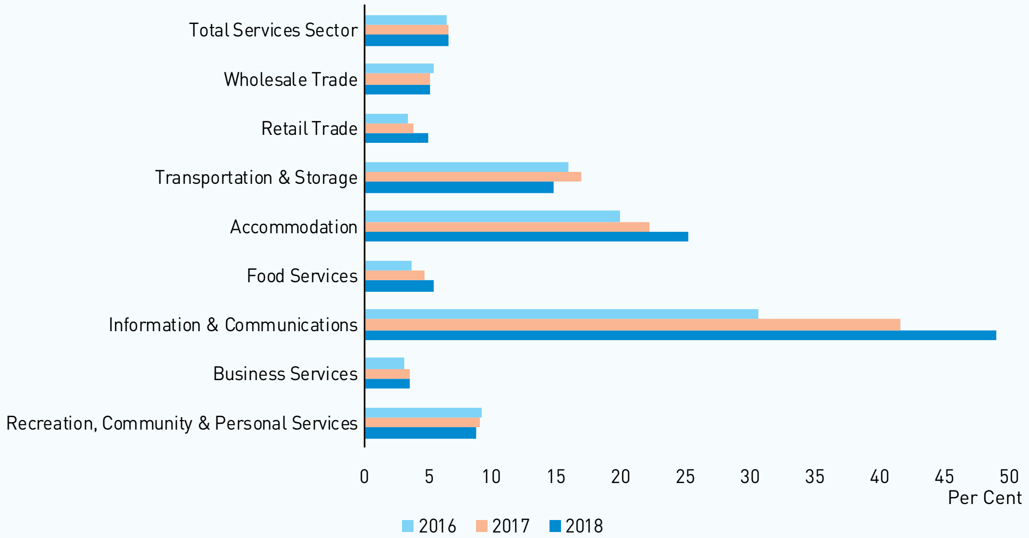


Source: Department of Statistics

Some industries within the services sector have significantly higher levels of e-commerce penetration than others

Within the services sector, the extent of e-commerce penetration varies widely across industries. For instance, the share of e-commerce revenue out of total operating receipts was significantly higher in the information & communications (49 per cent), accommodation (25 per cent) and transportation & storage (15 per cent) industries as compared to the other industries [Exhibit 2]. In addition, the majority of the industries saw a sustained increase in their e-commerce revenue shares between 2016 and 2018. The exceptions were the wholesale trade, transportation & storage, and recreation, community & personal services industries, where the share had remained broadly the same throughout the period.

Exhibit 2: E-commerce Revenue Share of Total Operating Receipts, 2016 – 2018



Source: Department of Statistics

Some salient observations by industries are as follows:

- The higher e-commerce penetration seen in the information & communications, accommodation and transportation & storage industries is likely due to the nature of activities in these industries.

  - Information & communications: The high e-commerce revenue share in the industry can be attributed to the highly digitalised nature of the industry, which includes activities like web portals (e.g., social media sites and online marketplaces), computer programming and software publishing. With the rising prominence of such activities over time, the industry has also seen a significant increase in its e-commerce revenue share, from 30 per cent in 2016 to 49 per cent in 2018. This increase was driven by a robust 49 per cent CAGR rise in its e-commerce revenue from 2016 to 2018, which far outstripped the 0.8 per cent CAGR rise in its non-e-commerce revenue over the same period.

  - Accommodation: The high e-commerce revenue share in the industry is due to the prevalence of online booking of hotel rooms. Given the increasing popularity of such bookings, the industry has also seen an increase in its e-commerce revenue share, from 20 per cent in 2016 to 25 per cent in 2018.

  - Transportation & storage: The high e-commerce revenue share in the industry is primarily due to the air transport segment, likely reflecting the prevalence of online flight bookings. The industry's e-commerce revenue share has remained stable over time, at 15 per cent in 2018 compared to 16 per cent in 2016.

- On the other hand, some industries are slower in terms of e-commerce adoption.

  - Business services: The business services industry had the lowest e-commerce revenue share among all the industries in 2018, at 3.6 per cent. However, there were variations across segments within the industry. The real estate, head office and management consultancy segments had lower e-commerce penetration. This is possibly because transactions in these segments tend to be of higher value and could also be more complex, making them more likely to be conducted in-person. By contrast, segments such as ticket reservation services, which are relatively easier to digitalise, generated a large proportion of their operating receipts from e-commerce.

  - Retail trade: The retail trade industry had the second-lowest e-commerce revenue share in 2018, at 4.9 per cent. The low e-commerce penetration was due in part to activities such as the retail sales of motor vehicles and petrol, which are transactions that hardly take place over an e-commerce platform. By contrast, segments such as sales by supermarkets & hypermarkets and sales of computer & telecommunication equipment had relatively higher e-commerce revenue shares. It is also encouraging to see that e-commerce revenue growth in the industry has been robust, coming in at 22 per cent on a CAGR basis between 2016 and 2018, much better than its non-e-commerce revenue growth over the same period (-0.2 per cent CAGR). This has led to a rise in the industry's e-commerce revenue share, from 3.3 per cent in 2016 to 4.9 per cent in 2018, suggesting that retailers in Singapore are increasingly leveraging e-commerce in their business.

While the e-commerce share of total operating receipts for small-to-medium-sized firms is similar to that for large firms in the overall services sector, significant gaps between the two groups exist within specific industries

We next examine the extent of e-commerce penetration across firms of different sizes. In general, larger firms would have more resources and the economies of scale to launch their own e-commerce platforms. However, advancements in information technology and digital payments have also lowered the barriers for smaller firms to adopt e-commerce solutions. For instance, rather than establish their own e-commerce platform, smaller firms can instead sell through an established e-marketplace.

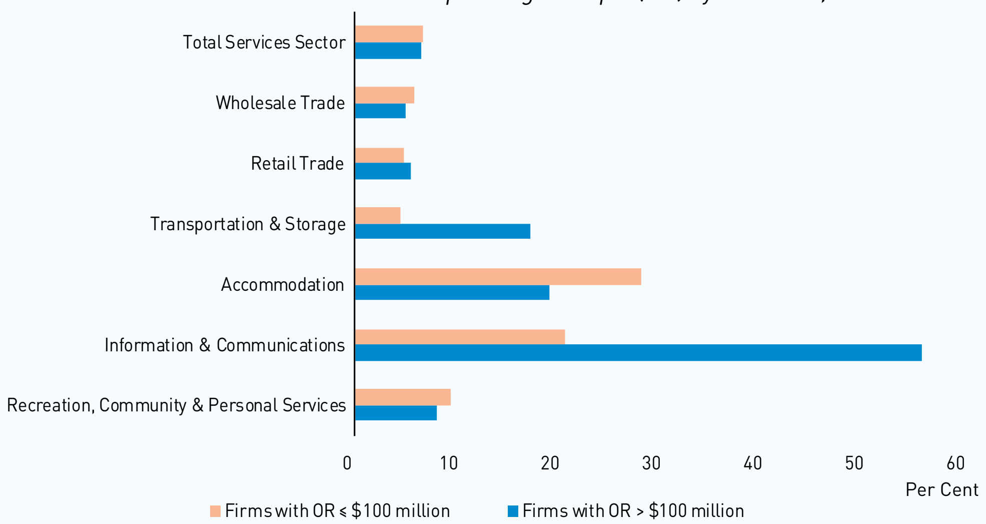
For the purpose of this analysis, we compare the e-commerce share of total operating receipts of small-to-medium-sized firms (defined as firms with operating receipts of not more than $100 million) against that of large firms (defined as firms with operating receipts of more than $100 million) within the same industry.

For the overall services sector, we find that the e-commerce revenue share of large firms was 6.5 per cent in 2018, similar to the 6.7 per cent for small-to-medium-sized firms [Exhibit 3]. The e-commerce revenue shares of the two groups of firms were also comparable in industries such as wholesale trade, retail trade, and recreation, community & personal services.

However, we observe wide gaps in the e-commerce revenue shares of small-to-medium-sized firms and large firms in several other industries. For instance, large firms in the information & communications industry derived 56 per cent of their operating receipts from e-commerce in 2018, significantly higher than the 21 per cent for small-to-medium-sized firms in the same industry. Notwithstanding this, the latter was still higher than the e-commerce revenue shares seen in most of the other services industries. A large gap can also be observed in the transportation & storage industry, where large firms derived 17 per cent of their operating receipts from e-commerce as compared to 4.5 per cent for small-to-medium-sized firms. This likely reflects the significant value of flight tickets sold online by airlines, which tend to be large firms. By contrast, smaller firms in this industry are likely to be engaged in activities where e-commerce tends to be less prevalent, such as vehicle towing services.

Unlike these two industries, the e-commerce revenue share of large firms in the accommodation industry was lower than that of small-to-medium-sized firms in the same industry, at 19 per cent and 28 per cent respectively in 2018. This can be attributed to larger hotels having more diverse distribution channels such as block contracts with corporates and travel agencies[7], some of which may be non-e-commerce in nature.

Exhibit 3: E-commerce Revenue Share of Operating Receipts (OR) by Firm Size, 2018



Source: Department of Statistics
Note: E-commerce revenue share of operating receipts by firm size is not available for the food services and business services industries.

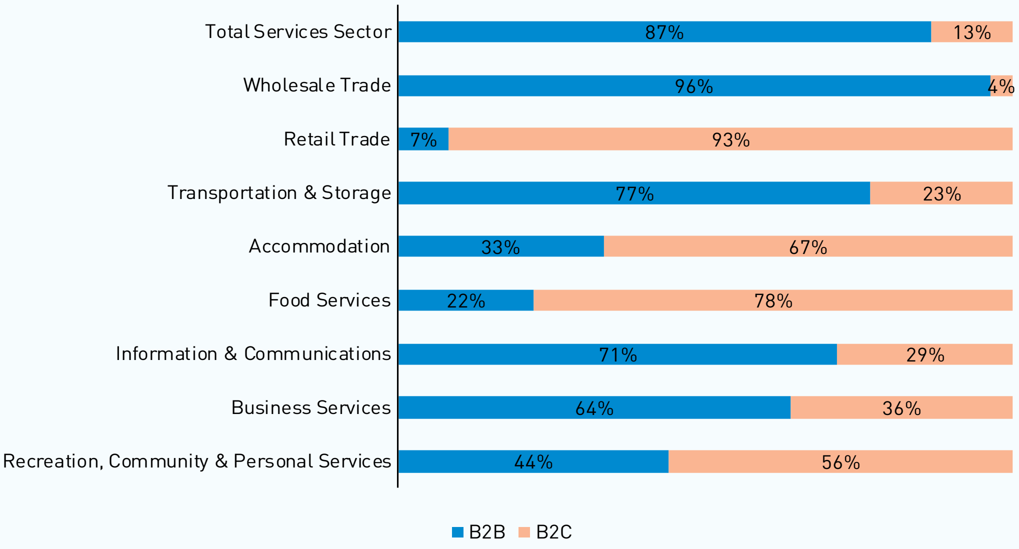
7 A block contract is a contractual arrangement between hotels and companies, where hotels will reserve a fixed number of rooms at a negotiated rate.

Within the services sector, e-commerce revenue was mainly contributed by business-to-business transactions...

Finally, we look at the type of e-commerce transactions within each industry, i.e., whether the e-commerce revenue was generated from trading with other firms (B2B) or with end consumers (B2C).

In 2018, 87 per cent of the $237 billion in e-commerce revenue in the services sector was contributed by B2B transactions [Exhibit 4], with B2C transactions accounting for the remaining 13 per cent. Within the sector, B2B transactions accounted for the bulk of e-commerce revenue in industries like wholesale trade, transportation & storage, and information & communications. On the other hand, consumer-facing industries such as retail trade, food services, accommodation, and recreation, community & personal services generated most of their e-commerce revenue from B2C transactions.

Exhibit 4: E-Commerce Revenue by Type of Transaction, 2018



Source: Department of Statistics

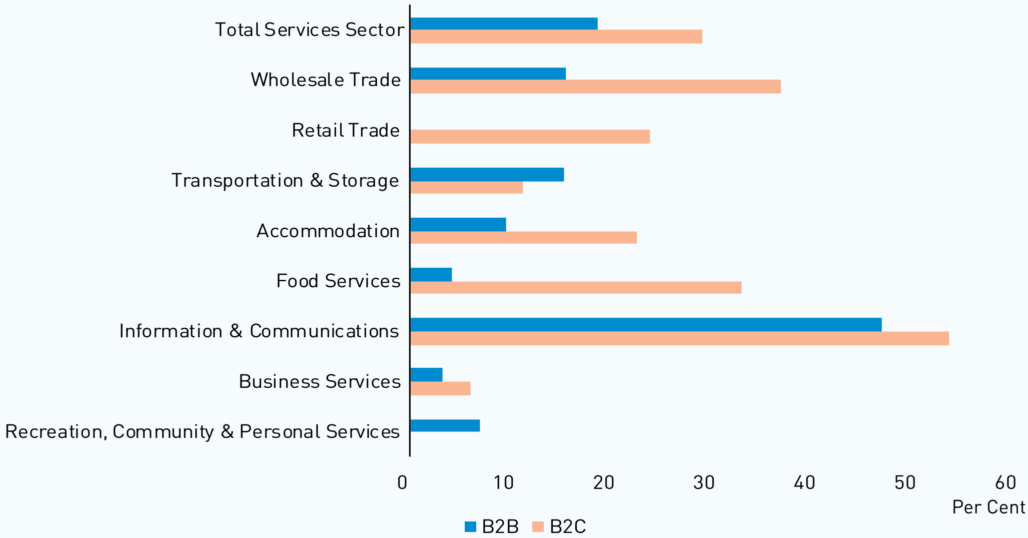
...although e-commerce revenue from B2C transactions grew faster than that from B2B transactions

Between 2016 and 2018, B2C e-commerce revenue in the services sector grew by 29 per cent on a CAGR basis, faster than the 19 per cent CAGR increase for B2B e-commerce revenue [Exhibit 5]. This pattern was observed in most of the industries within the sector, including both B2B-centric industries such as wholesale trade and B2C-centric industries such as accommodation, retail trade and food services.

There are several possible reasons for the faster growth in B2C e-commerce revenue compared to B2B e-commerce revenue, apart from base effects. First, B2C e-commerce has become more widely adopted and accepted by consumers in recent years[8], fueled by increased smartphone usage among the general population. Second, a study[9] by McKinsey has found that digitalisation in B2B firms generally lagged that in B2C firms as procurement activities associated with B2B transactions tend to be more complex. The latter can in turn be attributed to factors such as more decision-makers being involved in the final purchasing decision, higher price points and a more complicated array of products and specifications.

8 Based on the Household Expenditure Survey conducted by DOS, 60% of households reported online purchases in 2017/18, up from 31% in 2012/13.
9 Harrizon, L., Plotkin, C., Stanley, J. (2017). Measuring B2B's Digital Gap. McKinsey Quarterly, January 2017.

Exhibit 5: CAGR of E-commerce Revenue by Type of Transaction, 2016 – 2018



Source: Department of Statistics

Conclusion

With digital transformation being a key strategy in Singapore's economic development, e-commerce is poised to be an increasingly important channel that services firms can leverage to expand their market reach, raise productivity and explore new business ideas. While most of the industries in the services sector have seen an increase in e-commerce adoption, there is scope for firms across all industries to do more. The Government is committed to supporting firms in this journey. For instance, the SMEs Go Digital programme offers pre-approved digital solutions to small- and medium-sized enterprises (SMEs) in areas such as e-commerce. Through this and other initiatives, the Government will help firms in their transformation efforts and enable them to take advantage of the vast opportunities that come from digitalisation.

Contributed by:

Ms Angelyn Teo, Economist
Mr Jonathan Lin, Economist
Economics Division
Ministry of Trade and Industry

Mr Kenneth Lee, Statistician
Mr Choo Kit Hoong, Assistant Director
Business Statistics Division
Department of Statistics