



Information and Communications Technology (ICT) Report FOR THE YEAR ENDED 2012

BACKGROUND

The Organization for Economic Development (OECD, 2007) defines the Information and Communication Technologies (ICT) sector as comprising a combination of manufacturing and services industries that enable or fulfill the function of information processing and communication, including transmission and display by electronic means. These industries are involved in the development, delivery and support of advanced technological products.

This report is generated using data from annual business surveys and shows the results of the core indicators on use of ICT by businesses. Analysis and tables related to GDP, employment, trade and investment contained within follow the CARICOM definition of the ICT sector (Box 1 on the inside back cover). Included in this measure are the industries that comprise the OECD 2007 definition as well as trade industries and content & media industries.

2012 HIGHLIGHTS

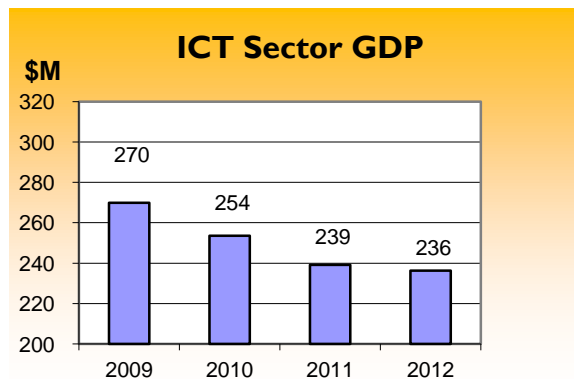
- The ICT sector contributed 4.3 per cent to Bermuda's GDP, or \$236 million.
- There were 838 ICT-related jobs in 2012, down 8.3 per cent.
- 96 per cent of all businesses use computers during their daily operations.
- Imports of ICT goods and services rose to \$126.8 million in 2012.
- Exports of ICT services increased to \$83.8 million.
- Capital investment in ICT goods totaled \$92 million.

PROFILE OF THE ICT SECTOR

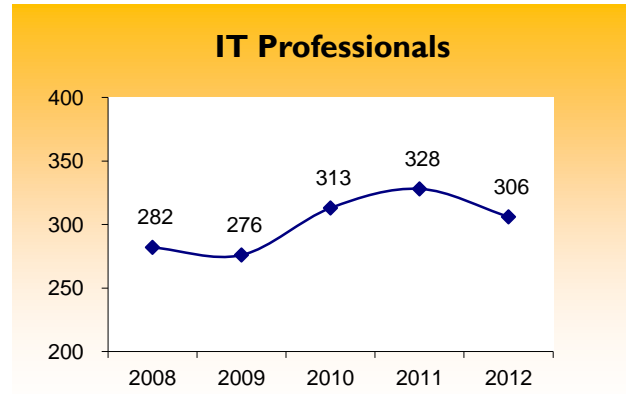
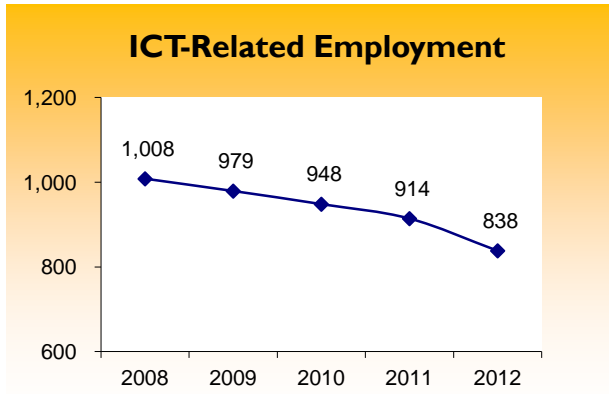
ICT SECTOR VALUE ADDED DOWN

Growth in the ICT sector declined 1.2 per cent to \$236 million in 2012. The decline was driven by a 20.3 per cent drop in the value added from ICT Content and Media industries due to lower revenue earned from publishing activities. Activity in the ICT Trade industries also decreased 12 per cent, adversely affected by lower sales of computers and photographic equipment. In contrast, the ICT Services industries saw an increase in value added of 5.3 million as a result of increased output from telecommunications and computer consultancy. However, this increase was not enough to offset the losses in the other sub industries of the ICT sector.

Compared to 2011, the ICT sector's share of total GDP remained steady at 4.3 per cent. While the sector ranked fairly low in terms of contribution to GDP, it surpassed all goods producing industries and services industries such as construction, and community and personal services.



LOSS OF PROGRAMMER JOBS DRAG DOWN ICT EMPLOYMENT



ICT-related employment continued its downward trend, dropping 8.3 percent in 2012. This decrease was attributed primarily to a decline in the number of electrical engineers and computer programmers/analysts. Total ICT-related jobs represented 2.4 percent of overall employment, unchanged from 2011 levels.

In 2012, approximately 36 percent of all companies outsourced their ICT needs to other companies which marked a 5 percentage point rise over 2011. This outsourcing led to the loss of some ICT-related jobs as companies restructured and in some instances re-domiciled. Although the proportion of companies that hired other local businesses to fulfill their ICT needs increased to 77 percent from 75 per cent, this increase did not prevent the loss of 22 local computing professional jobs at the end of 2012.

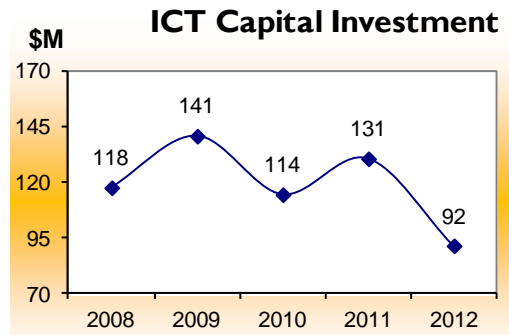
TRADE IN ICT GOODS AND SERVICES RECORD A DEFICIT

In 2012, Bermuda recorded a trade deficit on ICT goods and services. A total of \$126.8 million was spent overseas, up 7.6 percent over the previous year. Exports of information and communication technology services totaled \$83.9 million, up 7.2 per cent from 2011 (see Table 1 below).

| | 2010 | 2011 | 2012 |
|---|-----------------|-----------------|-----------------|
| IMPORTS | | | |
| ICT Goods | | | |
| Telecommunications equipment | 14,391 | 11,370 | 17,932 |
| Computer and related equipment | 11,869 | 12,593 | 9,846 |
| Electronic components | 653 | 893 | 605 |
| Audio and video equipment | 5,791 | 7,220 | 6,616 |
| Other ICT goods | 6,186 | 3,020 | 5,745 |
| Total ICT Goods | 38,890 | 35,096 | 46,051 |
| ICT Services | 96,742 | 82,719 | 80,746 |
| Total Imports (Goods and Services) | 135,632 | 117,815 | 126,797 |
| EXPORTS | | | |
| Total Exports of ICT Services | 82,611 | 78,255 | 83,858 |
| Trade Balance | (53,021) | (39,560) | (42,939) |

ICT CAPITAL INVESTMENT DECREASES

Expenditure on ICT capital goods fell to \$92 million in 2012. This decline was due primarily to a 36.5 percent or \$19 million decrease in business investment of information & communications technology equipment. Similar to previous years, expenditure by financial institutions and the international business community accounted for more than half of all ICT investment in Bermuda during 2012. Labour intensive industries such as agriculture, fishing and construction invested the least in ICT capital goods during the year. ICT investment represented 33 per cent of all capital investment, down from 46 per cent in 2011.

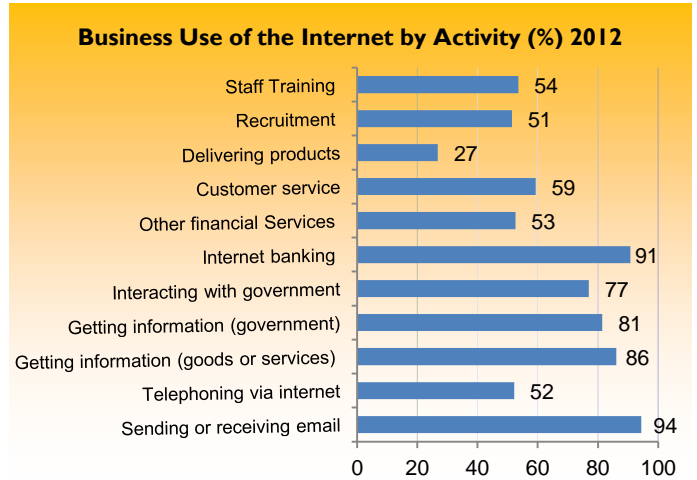
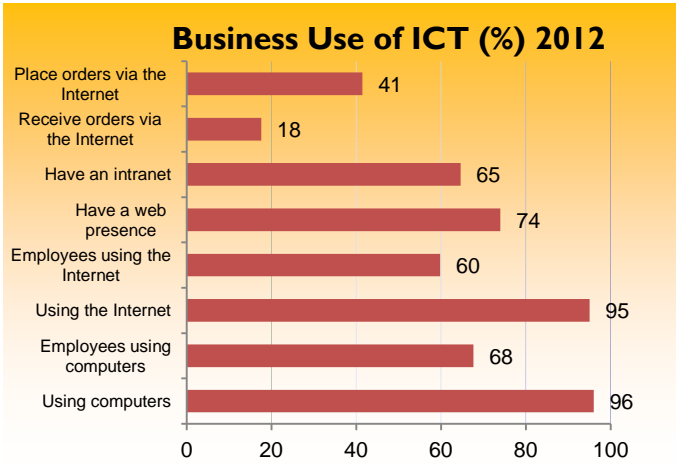


BUSINESS USE OF ICT DOMINATED BY SERVICE INDUSTRIES

Businesses in Bermuda continue to rely on information and communications technology (ICT) during their day-to-day operations. Table 2 shows that service related industries, such as financial and insurance institutions were more prevalent users of ICT than goods producing industries. On average about 90 per cent of all companies in service related industries used a computer compared to only 82 per cent usage by goods producing industries such as agriculture. Establishments in the agricultural sector experienced the largest increase in computer usage in 2012, growing by 15 per cent to 89 per cent.

Table 2: Percent (%) Use of ICT for Selected Industries - 2012

| Use of ICT | Agri- culture | Cons- truction | Transport and Communic ations | | Financial Insti- tutions | Insurance and related activities | Inter- national Business Activity | ICT Sector |
|---|------------------|-------------------|--|-----|--------------------------------|---|--|---------------|
| | | | Accommod ation Services | and | | | | |
| Using computers | 89 | 82 | 90 | 84 | 100 | 100 | 97 | 96 |
| Employees using computers | 30 | 30 | 42 | 76 | 100 | 100 | 100 | 86 |
| Using the Internet | 87 | 76 | 90 | 81 | 100 | 100 | 97 | 94 |
| Employees using the Internet | 27 | 25 | 32 | 68 | 100 | 86 | 99 | 77 |
| Have a web presence | 19 | 24 | 81 | 60 | 89 | 83 | 72 | 82 |
| Have an intranet | 9 | 20 | 35 | 51 | 67 | 100 | 73 | 67 |
| Receive orders via the Internet | 2 | 1 | 29 | 16 | 33 | 25 | 1 | 56 |
| Place orders via the Internet | 13 | 20 | 26 | 21 | 56 | 33 | 25 | 15 |
| Proportion of businesses using the internet by type of activity: | | | | | | | | |
| Sending or receiving email | 77 | 76 | 90 | 81 | 100 | 100 | 96 | 91 |
| Telephoning via internet | 6 | 14 | 26 | 33 | 89 | 92 | 68 | 59 |
| Getting information (goods or services) | 66 | 64 | 77 | 73 | 100 | 92 | 79 | 91 |
| Getting information (government) | 49 | 53 | 68 | 52 | 100 | 92 | 86 | 76 |
| Interacting with government | 40 | 43 | 61 | 51 | 89 | 83 | 73 | 68 |
| Internet banking | 77 | 71 | 74 | 70 | 89 | 92 | 94 | 92 |
| Other financial Services | 26 | 20 | 23 | 32 | 89 | 75 | 68 | 42 |
| Customer service | 30 | 34 | 68 | 51 | 78 | 92 | 38 | 66 |
| Delivering products | 4 | 5 | 26 | 14 | 56 | 42 | 19 | 29 |
| Recruitment | 6 | 14 | 26 | 27 | 67 | 50 | 39 | 33 |
| Staff Training | 6 | 11 | 29 | 37 | 78 | 67 | 68 | 49 |



In 2012, almost three out of every four (74%) businesses had a web presence, up from 51 per cent the previous year. However, most did not utilise this web presence for e-commerce. Although the number of companies trading goods via the internet increased in 2012, only 41 per cent of these companies used the internet to place orders for goods and services and an even smaller proportion (18%) received orders over the internet. However, both of these segments saw increased usage versus the previous year, up from 28 per cent and 7 per cent, respectively. The majority of businesses used the internet for sending and receiving e-mails, while internet banking and accessing information were among the more frequent internet activities.

In 2012, 96 per cent of all companies used computers in their daily operations (Table 3) and 95 per cent used the internet, up from 88 per cent and 86 per cent, respectively. For aspects of ICT use such as having a web presence and e-commerce, the size of businesses continued to be positively correlated to usage. The larger the company, the greater was the use of the internet for activities such as recruitment, staff training, delivering products and customer service.

Table 3: Percent (%) use of ICT by Size of Company, 2012

| Use of ICT | 1 - 9 employees | 10 - 19 employees | 20 - 49 employees | 50 - 249 employees | 250+ employees | Total Economy |
|---|-----------------|-------------------|-------------------|--------------------|----------------|---------------|
| Using computers | 83 | 98 | 99 | 100 | 100 | 96 |
| Employees using computers | 72 | 64 | 65 | 70 | 67 | 68 |
| Using the Internet | 80 | 97 | 98 | 100 | 100 | 95 |
| Employees using the Internet | 64 | 53 | 57 | 59 | 66 | 60 |
| Have a web presence | 40 | 66 | 82 | 96 | 86 | 74 |
| Have an intranet | 32 | 52 | 66 | 73 | 100 | 65 |
| Receive orders via the Internet | 4 | 9 | 10 | 23 | 42 | 18 |
| Place orders via the Internet | 24 | 33 | 47 | 46 | 57 | 41 |
| Proportion of businesses using the internet by type of activity: | | | | | | |
| Sending or receiving email | 78 | 97 | 97 | 100 | 100 | 94 |
| Telephoning via internet | 23 | 36 | 48 | 68 | 86 | 52 |
| Getting information (goods or services) | 65 | 88 | 93 | 99 | 86 | 86 |
| Getting information (government) | 56 | 79 | 86 | 86 | 100 | 81 |
| Interacting with government | 46 | 74 | 77 | 88 | 100 | 77 |
| Internet banking | 71 | 92 | 91 | 100 | 100 | 91 |
| Other financial Services | 25 | 38 | 53 | 61 | 86 | 53 |
| Customer service | 35 | 58 | 64 | 68 | 71 | 59 |
| Delivering products | 7 | 21 | 23 | 26 | 57 | 27 |
| Recruitment | 10 | 34 | 53 | 60 | 100 | 51 |
| Staff Training | 18 | 36 | 55 | 73 | 86 | 54 |

DEFINING THE ICT SECTOR

In 2010, Bermuda was selected as one of four Caribbean Community Secretariat (CARICOM) member states to participate in a pilot project to measure the economic contribution of the ICT sector. The information Box below outlines the various industries that comprise the ICT sector as defined by CARICOM. The selected industries align with the United Nations International Standard Industrial Classification (ISIC) Rev.4.

CARICOM ICT sector definition (based on ISIC Rev.4)

ICT manufacturing industries

- 2610 Manufacture of electronic components and boards
- 2620 Manufacture of computers and peripheral equipment
- 2630 Manufacture of communication equipment
- 2640 Manufacture of consumer electronics
- 2680 Manufacture of magnetic and optical media

ICT trade industries

- 4651 Wholesale of computers, computer peripheral equipment and software
- 4652 Wholesale of electronic and telecommunications equipment and parts
- 474 Retail sale of information and communications equipment in specialised stores
- 476 Retail sale of cultural and recreation goods in specialised stores

ICT services industries

- 5820 Software publishing
- 61 Telecommunications
- 62 Computer programming, consultancy, and related activities
- 631 Data processing, hosting, and related activities; web portals
- 7730 Renting and leasing activities
- 8220 Activities of call centers
- 951 Repair of computers and communication equipment
- 9521 Repair of consumer electronics

ICT content and media industries

- 581 Publishing of books, periodicals, and other publishing activities
- 591 Motion picture, video, and television programme activities
- 5920 Sound recording and music publishing activities
- 60 Programming and broadcasting activities
- 639 Other information service activities

Source: Determining the contribution of ICT to GDP (CARICOM, May 2011)

Published by:



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