



# Information and Communications Technology (ICT) Report FOR THE YEAR ENDED 2010

## 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.). Included in this measure are the industries that comprise the OECD 2007 definition as well as trade industries and content & media industries.

## 2010 HIGHLIGHTS

- The ICT sector contributed 4.4 per cent to Bermuda's GDP, or \$254 million.
- There are 1,384 employees in the ICT sector, of which 475 worked as IT professionals.
- Almost 90 per cent of all businesses use computers to conduct work.
- Imports of ICT goods and services climbed to \$145 million in 2010.
- Exports of ICT services dropped to \$83 million.
- Capital investment in ICT goods totaled \$114 million.

## PROFILE OF THE ICT SECTOR

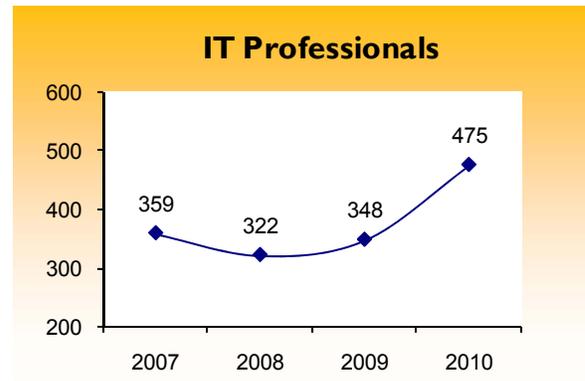
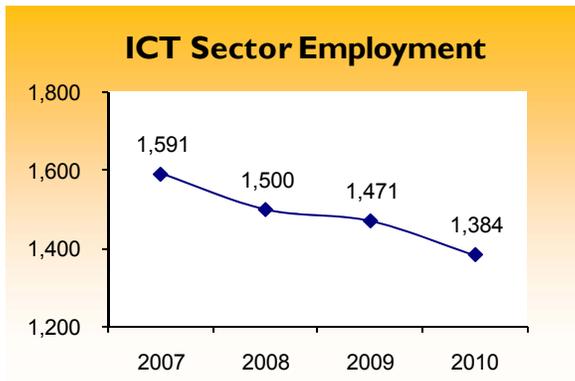
### Gross Domestic Product (GDP)

Growth in the ICT sector declined 5.5 per cent to \$254 million in 2010. This total represented only 4.4 per cent of total GDP, ranking just above other goods-producing industries like agriculture, manufacturing, and electricity generation. Among all service industries in the economy, the ICT sector was ranked near the bottom surpassing only community and personal services in terms of contribution to total output of the economy.

Within the ICT sector, the ICT services sub-industry contributed the most to the overall decline with a \$12 million fall in value added. Specifically, businesses offering telephone and internet connections accounted for the majority of this decrease. The value added of trade industries and content & media industries also declined by \$2 million and \$1 million, respectively. In contrast, the manufacturing sub-industry recorded a small increase in growth.



## ICT EMPLOYMENT



Employment within the ICT sector fell by 5.9 per cent to 1,384 jobs in 2010. However, the number of IT professionals increased by 127 workers over the previous year. Total ICT sector jobs represented 3.6 per cent of the total work force. Corporate downsizing and the elimination of jobs were factors that led to the general declining trend exhibited over the period 2007 to 2010. Approximately 34 per cent of employees worked in the ICT services sub-sector, which experienced major layoffs in the past 2 years due to cost-cutting measures.

## INTERNATIONAL TRADE

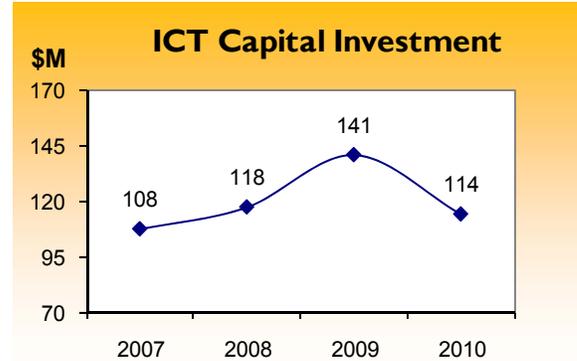
Rapid technological changes dictated that businesses make the necessary upgrades to equipment and software to remain competitive. These developments have led to higher demand for ICT goods and services. As Bermuda is not a producer of ICT goods, consumers met their demand by importing these goods from overseas. In 2010, imports of ICT goods amounted to \$49 million while imports of ICT services reached \$97 million, totaling \$145 million spent overseas. Exports of information and communication technology services totaled only \$83 million, resulting in a deficit on trade in ICT goods and services.

**Table 1: Trade in ICT Goods and Services (\$000)**

	2009	2010
<b>IMPORTS</b>		
ICT Goods		
Telecommunications equipment	16,001	17,467
Computer and related equipment	16,872	15,951
Electronic components	1,750	2,593
Audio and video equipment	5,914	5,660
Other ICT goods	5,054	6,885
Total ICT Goods	45,592	48,555
ICT Services	83,654	96,741
<b>Total Imports (Goods and Services)</b>	<b>129,246</b>	<b>145,296</b>
<b>EXPORTS</b>		
Total Exports of ICT Services	98,551	82,582
<b>Trade Balance</b>	<b>(30,695)</b>	<b>(62,714)</b>

### ICT CAPITAL INVESTMENT DIPPED

In 2010, expenditure on ICT capital goods fell to \$114 million. This represented a decrease of \$27 million when compared to the previous year. The drop was due primarily to the completion of large scale modernization projects within the telecommunications industry. Expenditure by financial institutions, the transport & telecommunications industries and the international business community accounted for more than half of all ICT investment in Bermuda during the year. In contrast, primary industries such as agriculture, fishing, quarrying and construction invested the least in ICT capital goods.



### BUSINESS USE OF ICT

Service industries such as financial intermediation, insurance activities and the international business community were the most prevalent users of ICT technology in day-to-day business operations (Table 2). These industries have also consistently contributed highly to overall economic growth in the past 5 years. While there is a high correlation between ICT usage and industry growth it is difficult to link the use of ICT directly with profits. More important is the way that ICT is incorporated into business processes to cut costs, as the simple presence of ICT itself is not a precursor for growth.

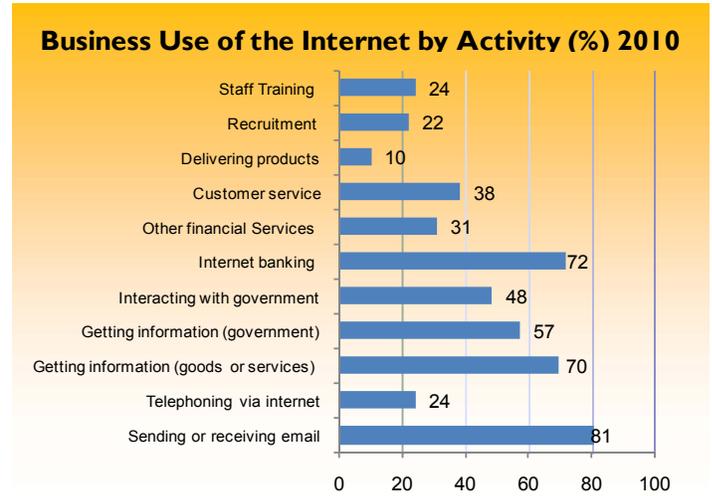
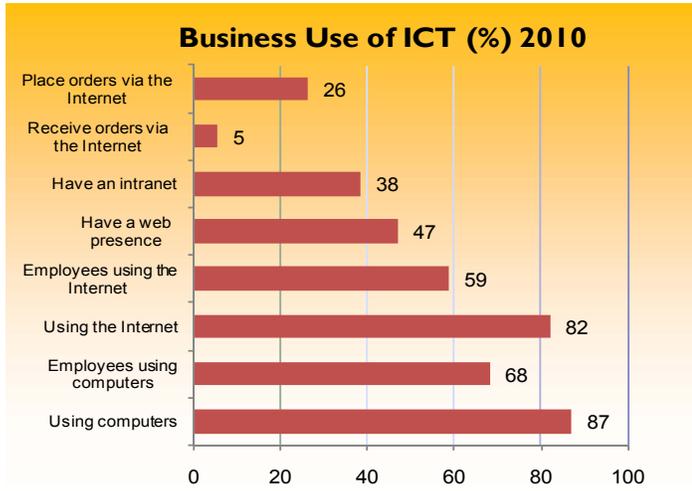
An example of this link is evident in the data on the ICT sector. This sector was also a dominant user of information and communication technology with over 90 per cent of these companies using computers and the internet to conduct business. However the contribution of this sector to GDP has yet to surpass \$300 million in any given year, and has realised negative growth for two consecutive years. Labour-intensive and goods-producing industries such as agriculture, manufacturing and construction were among the weakest users of ICT.

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

Use of ICT	Agri- culture	Manufac- turing	Electricity and Water Supply	Cons- truction	Financial Insti- tutions	Insurance and related activities	Inter- national Business Activity	ICT Sector
Employees using computers	25	55	58	29	98	97	100	90
Using the Internet	78	71	38	67	100	100	94	93
Employees using the Internet	23	45	57	17	89	65	98	79
Have a web presence	13	37	25	21	70	89	66	74
Have an intranet	4	25	38	21	70	100	68	58
Receive orders via the Internet	**	5	**	1	30	33	**	12
Place orders via the Internet	13	25	13	13	40	33	27	51

\*\* denotes zero

Although just under half (47%) of all businesses have a web presence most did not utilise this web presence for e-commerce. Only 26 per cent of businesses used the internet to place orders for goods and services and a mere fraction of these businesses (5%) received orders over the internet. Most businesses used the internet for sending and receiving e-mail, with internet banking and accessing information being other popular activities.



In 2010, almost 90 per cent of all companies used computers in the daily operations (Table 3) and over 80 per cent used the internet. The size of businesses proved to be highly correlated to the prevalence of information and communication technology usage. Comparatively, larger businesses utilised every aspect of ICT and engaged more in all aspects of internet activity than did their smaller counterparts.

Table 3: Business use of ICT by size of company 2010

Use of ICT	1 - 9 employees	10 - 19 employees	20 - 49 employees	50 - 249 employees	250+ employees	Total Economy
Using computers	80	97	99	99	100	87
Employees using computers	67	61	62	71	75	68
Using the Internet	74	92	98	98	100	82
Employees using the Internet	58	49	52	61	70	59
Have a web presence	32	61	76	94	100	47
Have an intranet	26	53	56	75	100	38
Receive orders via the Internet	3	6	9	15	50	5
Place orders via the Internet	19	34	40	45	67	26
<b>Proportion of businesses using the internet by type of activity:</b>						
Sending or receiving email	72	92	96	99	100	81
Telephoning via internet	15	30	42	55	67	24
Getting information (goods or services)	59	84	90	97	100	70
Getting information (government)	45	69	82	88	100	57
Interacting with government	37	61	67	82	100	48
Internet banking	60	86	93	99	100	72
Other financial Services	23	33	48	58	100	31
Customer service	30	44	56	65	83	38
Delivering products	6	11	17	25	67	10
Recruitment	10	30	49	55	100	22
Staff Training	12	32	45	71	83	24

## DEFINING THE ICT SECTOR

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:



GOVERNMENT OF BERMUDA  
Cabinet Office

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