

Chapter 6

E-Commerce Development: Policy Considerations for Small Developing Countries

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6.1 Introduction

This chapter explores policy considerations for electronic commerce (e-commerce) development in small developing countries. E-commerce, though not entirely a new subject area in international trade discourse, is coming to the forefront now given its rapid expansion and the need for governments and the global community at large to look more carefully at the implications of this and to come up with relevant policy measures. This chapter does not purport to build the case for a particular stance by these countries on e-commerce, but rather looks at the potential benefits that could accrue from e-commerce development and at the same time the serious challenges they face, given the constraints that exist, as well as ways to address these. While the focus is on small developing countries, many of the issues covered will be relevant to the larger group of developing countries. They may also generally be of interest in shaping up a global agenda on e-commerce with a development dimension.

6.2 What is e-commerce and why is it important to study it?

We cannot assign one specific definition to e-commerce, as it is an evolving practice that is inextricably linked to technological development and forms of conducting business transactions. Broadly, e-commerce can be defined as the buying and selling of goods and services through computer networks such as the internet or other electronic means. In the context of the World Trade Organization (WTO) Work Programme on E-Commerce, it is defined as ‘the production, distribution, marketing, sale or delivery of goods and services by electronic means’ (WTO, 1998). According to the UN Conference on Trade and Development (UNCTAD) (2015), e-commerce covers purchases and sales conducted over computer networks, using multiple formats and devices, including the web and electronic data interchange, using personal computers, laptops, tablets and mobile phones of varying levels of sophistication. E-commerce may involve physical goods as well as intangible (digital) products and services that can be delivered digitally (ibid.). Digital trade, a form of e-commerce, is defined as trade in purely digitised products that can be downloaded or streamed over the internet (UNCTAD, 2016).

E-commerce has been linked with the revolution and boom in information and communication technologies (ICTs) in the later part of the 1990s. The rapidly

evolving nature of technologies quickly affects the way business is conducted through the internet (e.g. the Uber mobile application for booking transportation) such that it becomes difficult to size up precisely the amount of transactions taking place at a given point in time and the methods through which these are happening. Forms can be business to business (B2B), business to consumer (B2C), consumer to consumer (C2C), business to government (B2G) and, to a certain extent, government to government (G2G).

UNCTAD (2015) estimates that the value of global B2B e-commerce in 2013 exceeded US\$15 trillion. Global B2C e-commerce accounted for an estimated \$1.2 trillion in 2013 (ibid.). Given this rapid expansion, it will not take long before this form of trading dominates global transactions. E-commerce presents much development potential, especially in mitigating some of the disadvantages arising out of smallness and remoteness, but numerous policy implications and challenges need to be thoroughly analysed to ensure this form of trading does not go unregulated and out of control. Impacts with regard to traditional ways of conducting business, revenue, origin of products and services, employment and intellectual property rights are among the areas that will require attention.

6.3 How can e-commerce be measured?

The measurement of e-commerce depends first and foremost on the definition assigned to it or the specific method of delivery used—for example B2B or B2C trade. Given the lack of a uniform and universally accepted approach, it is difficult to precisely ascertain the amount of trade being conducted through e-commerce. Furthermore, very few countries, especially developing countries, maintain data on e-commerce. According to UNCTAD (2015: 39), ‘[t]here are few benchmarks of country e-commerce performance; those that exist suffer from a lack of public availability, scope or consistent methodology, as well as limited geographical coverage.’

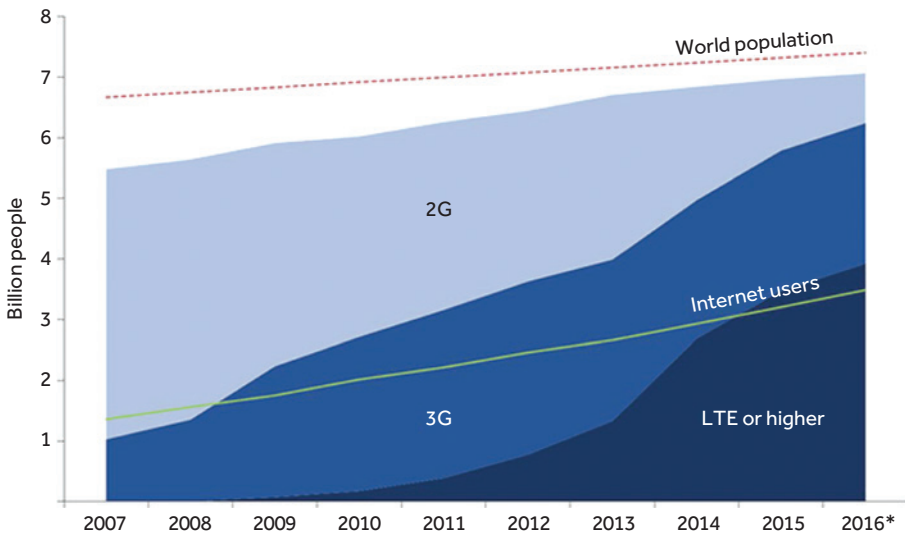
Many of the studies conducted on e-commerce actually try to measure it on the basis of the capabilities of countries to carry out e-commerce transactions, such as access to modern methods of telecommunications—internet, telephony, number of computers per household, cost of communication. However, few studies actually pertain to the measurement of e-commerce—that is, the actual trade taking place between parties through electronic means and that was hitherto conducted through traditional means such as through border and customs post, or captured by local presence in the case of services. The International Telecommunications Union (ITU) collects comprehensive data on ICTs (ITU, 2016).

Table 6.1 Individuals using the internet (millions)

	2008	2016
Developed	753	1,023
Developing	808	2,465
Total	1,561	3,488

Source: ITU

Figure 6.1 Evolution of internet users and mobile network coverage and evolving technologies



Source: ITU (2016b)

UNCTAD (2015) has developed an index for the measurement of B2C e-commerce. Basically, this assesses the readiness of countries for e-commerce, using data for 130 economies on four indicators: internet use, secure servers, credit card penetration and postal delivery services. But the other aspects of e-commerce remain largely unmeasured, in part because of the lack of data and/or an appropriate methodology. The rapidly evolving nature of this trade further complicates efforts to measure it. Developing a policy and regulatory framework that involves measurement in this area will certainly require more adequate data and methods. There will also need to be a focus on increasing data availability for specific groups of countries, such as small states.

6.4 Assessing readiness for e-commerce through e-government

UNCTAD (2015) identifies the need to put in place high-speed internet access and to develop robust payment and delivery systems to ensure seamless transaction processing. The Commonwealth Secretariat eReadiness framework takes a much broader view and considers the enterprise as a whole to function effectively in a digital environment. These frameworks are complementary and could be utilised in conjunction to ensure full assessment of the digital ecosystem to support e-commerce. The benefits of e-commerce are widely documented, and, with the exponential growth of internet usage and mobile devices, new digital pathways to conduct commerce are being created. However, critical technological and legislative elements must be in place to ensure e-commerce is readily available, trusted, safe and secure.

Table 6.2 UN E-government index

Country	E-government rank		E-government index		Online service index		Human capital index		Telecommunication infrastructure index	
	2014	2012	2014	2012	2014	2012	2014	2012	2014	2012
Antigua and Barbuda	60	49	0.59	0.63	0.42	0.31	0.77	0.88	0.59	0.72
The Bahamas	92	65	0.49	0.58	0.34	0.47	0.71	0.81	0.42	0.46
Barbados	59	44	0.59	0.66	0.22	0.37	0.89	0.92	0.67	0.67
Botswana	112	121	0.42	0.42	0.31	0.36	0.66	0.71	0.30	0.19
Brunei Darussalam	86	54	0.50	0.63	0.36	0.59	0.78	0.83	0.37	0.46
Fiji	85	105	0.50	0.47	0.39	0.36	0.83	0.80	0.29	0.24
Lesotho	153	136	0.26	0.35	0.16	0.30	0.51	0.70	0.12	0.05
Maldives	94	95	0.48	0.50	0.36	0.33	0.69	0.81	0.40	0.36
Mauritius	76	93	0.53	0.51	0.47	0.43	0.69	0.76	0.44	0.33
Seychelles	81	84	0.51	0.52	0.33	0.33	0.73	0.82	0.47	0.40
Sri Lanka	74	115	0.54	0.44	0.65	0.38	0.74	0.74	0.23	0.19
Tonga	98	111	0.47	0.44	0.35	0.24	0.83	0.87	0.23	0.21
Trinidad and Tobago	91	67	0.49	0.57	0.33	0.48	0.69	0.78	0.45	0.45
Tuvalu	137	134	0.31	0.35	0.04	0.05	0.70	0.82	0.18	0.19
Vanuatu	159	135	0.26	0.35	0.08	0.22	0.57	0.65	0.12	0.18

Before embarking on an e-commerce strategy and its subsequent implementation, countries should conduct an eReadiness assessment to evaluate their level of ICT sophistication, including in infrastructure, ICT literacy, the legal and regulatory environment and cyber security. The eReadiness toolkit developed by the Commonwealth is designed to allow a government to determine where it stands with regard to the Commonwealth objectives, vision and principles for e-government at the time the assessment is carried out. The Commonwealth toolkit can be accessed by contacting the authors of this chapter.

E-government is the provision of government services online, and could include e-commerce activities such as provision and payment of services, for example filing and payment of taxes, purchasing government publications, etc. Table 6.2 provides a sample of small states' e-government rankings and key elements that contributed these, as developed by the UN. The E-Government Index is a composite value of the Online Service Index (government services online), the Human Capital Index (adult literacy rates, years of schooling and enrolment) and the Telecommunications Index (mobile and fixed telephone, internet usage, fixed broadband subscriptions). Table 6.2 suggests small developing states have little experience in the development of e-services. In addition, most countries, with the notable exception of Antigua and Barbuda, and Barbados, lack the required infrastructure framework. However, it should be noted that significant investments are being made in these countries, which accounts for the improved Telecommunication Infrastructure Index from 2012 to 2014.

6.4.1 Infrastructure

The effectiveness of e-government initiatives in reaching citizens and businesses depends greatly on the availability of ICT infrastructure, including connectivity and broadband penetration and access. Mobile telephony, wireless access and other technological options should be explored by policy-makers with regard to coverage and cost, in the recognition that strategic e-governance/e-commerce may be a catalyst in reaching development targets and equitable public services for remote communities (McGee and Gaventa, 2010).

The explosive increase in the use of mobile telephony provides a significant opportunity for countries to leapfrog technology generations. The widespread availability and use of mobile devices will put technology in the hands of consumers, facilitating e-commerce activities.

Liberalisation of the telecommunications industry is a critical requirement in providing affordable, accessible and reliable telecommunications services. International experience shows that liberalisation of a country's telecommunications sector results in a lowering, through competition, of user fees to access internet and mobile services. The uptake of e-commerce can take place only if citizens and entrepreneurs have access to the technology and can afford this. An environment where technological choice is limited and access to technology is not affordable will result in the failure of e-commerce initiatives.

An immediate first step is the drafting of an enabling legislation and set of regulations for the setting up of a communications regulator. The legislation should be principle-based and should focus on the roles and responsibilities of the regulatory authority. The independence of national regulatory agencies is one of the fundamental underpinnings of successful liberalisation and of competition. The Malta Communications Authority is celebrating 15 years of operation and has been successful in fostering competition by creating a regulatory environment that encourages new entrants to the market while protecting consumers from predatory practices. Such independence creates conditions that are conducive to investment, incentivises new market entrants with the prospect of a level playing field, achieves a stable regulatory landscape and means institutions are not susceptible to political whim.

6.4.2 ICT literacy

ICT literacy is a prerequisite for government and private sector employees responsible for conducting e-commerce projects, and for citizens to be able to utilise them to their full potential. Small states generally have fairly good levels of primary education; however, migration of skilled personnel to more developed countries leads to a shortage of well-trained teachers. While a good-quality primary school level is crucial to the development of the human resource base of a country, the development of universal secondary-level education is seen as vital to meeting labour market needs. Nevertheless, there is much to be positive about, since Table 6.2 above indicates that most small states have a high Human Capacity Index, which suggests the educational system has the ability to produce a skilled workforce capable of functioning in a twenty-first century labour market.

6.4.3 Legal and regulatory environment

A cyber-legislative framework should, to the extent possible, precede the implementation of an e-government strategy in order to ensure legal effect, confidence and trust, as well as protection against misuse and abuse. The launch and implementation of an e-commerce strategy can be critically undermined, and potentially result in political embarrassment, in the event that an appropriate cyber-legislative framework is not in place. Without e-commerce legislation, electronic transactions will have no legal validity or effect. The absence of legal validity and effect will create jurisprudence and legal issues. Thus, e-commerce legislation must be in place, ideally prior to the initiation of e-services. Key pieces of legislation should cover e-commerce, data protection and privacy, intellectual property and computer misuse.

6.4.4 Cybercrime and cyber security

The internet and the World Wide Web have emerged as the dominant economic medium of the twenty-first century, connecting over 2 billion people and creating a global, borderless commercial marketplace worth upwards of US\$15 trillion. International banking and investment and the expansion of world trade have become critically reliant on web-based communications, making the internet a key component of economic infrastructure. Accordingly, secure, safe and reliable access

Table 6.3 Review of e-commerce legislation completed by the Commonwealth Secretariat during 2013

Country	Electronic transactions act (year)	Computer misuse act (year)	Data protection act (year)	Cyber security policy/act (year)	Mobile subscribers/100 pop.	Internet subscribers/100 pop.
Antigua and Barbuda	Yes (06)	Yes (06)	Yes (98)	Draft	47.05	17.77
The Bahamas	Yes (03)	Yes (03)	Yes (03)	No	124.94	11.4
Barbados	Yes (01)	Yes (04)	Yes (05)	No	128.07	22.35
Belize	Yes (03)	No	No	No	62.32	2.92
Botswana	No	No	No	Yes (07)	117.76	6
Brunei Darussalam	Yes (08)	No	Yes (07)	Draft	109.07	25.56
Cyprus	Draft	No	Yes (01)	Yes (04)	93.7	17.51
Dominica	Yes (05)	No	No	No	144.85	8.72
The Gambia	No	No	No	No	85.53	0.22
Grenada	Yes (08)	No	No	No	116.71	10.48
Guyana	No	No	No	No	73.61	6.43
Jamaica	Yes (06)	Draft	Draft	Yes (10)	113.22	4.2
Kiribati	No	No	No	No	10.05	0.87
Lesotho	No	No	No	No	32.18	0.12
Maldives	No	Draft	No	Draft	156.5	6.44
Malta	Yes (01)	Yes (01)	Yes (03)	Yes	109.34	26.83
Mauritius	Yes (00)	Yes (03)	Yes (04)	Yes (03)	156.5	8.13
Namibia	Yes (10)	Yes (03)	Draft	Yes (03)	67.21	4.17
Nauru	No	No	No	No	60.46	1.49
Papua New Guinea	No	No	No	No	27.84	0.5
St Kitts and Nevis	Yes (10)	No	Draft	No	161.44	9.72
Saint Lucia	Yes (07)	Yes	Yes	Draft	102.89	10.79

(continued)

Table 6.3 Review of e-commerce legislation completed by the Commonwealth Secretariat during 2013 (continued)

Country	Electronic transactions act (year)	Computer misuse act (year)	Data protection act (year)	Cyber security policy/act (year)	Mobile subscribers/100 pop.	Internet subscribers/100 pop.
St Vincent and the Grenadines	Yes (07)	No	Yes	Draft	120.54	11.68
Samoa	Yes (08)	No	No	No	91.43	0.74
Seychelles	Yes (01)	Yes (98)	Yes (03)	Draft	135.91	6.6
Solomon Islands	Yes (08)	No	No	No	5.57	0.4
Swaziland	No	No	No	No	61.78	1.88
Tonga	No	Yes (03)	No	No	52.18	4.33
Trinidad and Tobago	Yes (09)	Yes (01)	Yes	Draft	141.21	10.85
Tuvalu	No	No	No	No	25.44	8.2
Vanuatu	Yes (00)	No	No	No	119.05	1.11

to critical internet resources has become essential to achieving sustainable growth and to countries' full participation in the international economy, regardless of their size and stage of development. The World Bank's 2009 report on ICTs suggests that, for every 10 per cent broadband penetration there is a corresponding 1.3 per cent gross domestic product (GDP) growth, which is more pronounced in developing countries.

The increasing reliance on the internet as a communications platform and commercial marketplace creates new risks and vulnerabilities, notably those resulting from exposure to unlawful or offensive activity, or cybercrime. Cybercrime encompasses not only crimes related to computer systems (e.g. 'hacking', in order to damage or compromise computer data) but also traditional forms of crime, such as fraud and identity theft, which are increasingly committed by means of the internet. The latter could include not only internet-based offences such as phishing and spam but also use of the internet in the illegal trade in drugs, protected species and arms and in money laundering, as well as for the distribution of illegal or illicit content, such as child pornography.

Small states (population less than 1.5 million) face considerable challenges relating mostly to their small size—leading to limited ability to reap the benefits of economies of scale, vulnerability to adverse external shocks and limited institutional and technical capacity of the public sector—as well as often to their remoteness, which includes both depressed areas with low income and geographical separation. Table 6.3 showed some key characteristics, itemised below:

- 80 per cent or 24 out of 30 countries do not have cybercrime laws or policies.
- 70 per cent or 21 out of 30 countries do not have a computer misuse act.
- 30 per cent or 10 out of 30 countries do not have a data protection act.
- Average mobile subscriptions per 100 inhabitants are at 92.
- Average internet subscriptions per 100 inhabitants are at 8.

The ability of small states to respond to cyber threats is very limited, given a severe lack of skilled technical resources and small budgets, which restricts governments' ability to use third party companies to assist in the resolution of cybercrimes. Infrastructure is not hardened, data centres are not secure, patches are not implemented and unlicensed software is prevalent, and this could be a recipe for disaster. An equally troubling trend is the exponential increase in mobile phones, which has increased the number of entry points into key sites.

6.4.5 Business process reengineering

While the application of technology is important to the successful implementation of e-commerce initiatives, it is equally important that obsolete and inefficient processes and policies be reengineered before technology is applied. An organisation must reorient itself to be more customer-focused and must design processes to make the customer experience seamless, easy to use and economical.

Government Business process reengineering (BPR) is the application of reengineering within a government context; however, the underlying principles of BPR are universal:

- **Fundamental reconsideration:** This goes back to the *raison d'être* of the organisation and asks questions such as, should government be operating in this industry? Could this function be conducted better outside government? Is this a core business for government?
- **Radical redesign:** 'Thinking outside the box' becomes part of the critical thinking process and the focus is on the customer. Several techniques could be applied in conducting a radical redesign; we cover these in more detail later in the chapter.
- **Dramatic improvements:** Quantum leaps in improvement in cost, time and speed are associated with BPR initiatives. In some instances, breakthrough improvements are established initially and incremental changes are applied on an ongoing basis to further refine redesigned processes.

Resistance to implementation of an e-commerce strategy is to be expected. Resistance to change—both individual and organisational—arises for a variety of reasons, including fear, scepticism, concern, inertia and economic factors. The key is that such resistance should be anticipated strategically, planned for and subsequently managed. People need to know why change is necessary, what the benefits are and how they will be affected.

The benefits of BPR include:

- Improvements in 'ease of doing' business by reducing red tape and removing departmental silos;
- Reduction in turnaround time to process transactions, such as obtaining a business licence or an import/export licence;
- Increase in efficiency within revenue authorities especially in customs and excise departments; and
- Increase in customer satisfaction in trade and related government services.

6.5 E-commerce on the international agenda

6.5.1 A multilateral trade perspective

The WTO Work Programme on E-Commerce, first adopted in 1998, has received renewed attention in recent years. As stated above, in the WTO's most recent Ministerial Conference in Nairobi, countries agreed to continue to 'maintain the current practice of not imposing customs duties on electronic transmissions until our next session which we have decided to hold in 2017'.

Four WTO bodies were charged with the responsibility of carrying out the work programme: the Council for Trade in Services; the Council for Trade in Goods; the Council for the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS); and the Committee on Trade and Development. The General Council plays

a central role and keeps the work programme under continuous review. Since then, members have worked in these various WTO bodies and reported on progress to the General Council on a regular basis.

At the 9th WTO Ministerial Conference held in December 2013 in Bali, there was a great deal of discussion on the status of the work on e-commerce in the WTO, and in particular on the development-related issues to be addressed in the work programme. Accordingly, the General Council was instructed to emphasise and reinvigorate the development dimension in the work programme, particularly through the Committee on Trade and Development, to examine and monitor development-related issues such as technical assistance, capacity-building and the facilitation of access to e-commerce by micro, small and medium-sized enterprises (MSMEs), including small producers and suppliers, of developing countries and particularly of least developed country (LDC) members. Further, any relevant body designated in the work programme may explore appropriate mechanisms to address the relationship between e-commerce and development in a focused and comprehensive manner. Rapid technological development, including tools for e-commerce, makes it even more pressing to advance work at the multilateral level in this specific area.

This Decision during the Bali Ministerial Conference, as well as previous ones, was reaffirmed at the last WTO Ministerial Conference, held in Nairobi in December 2015. A few members, including the USA, have circulated a proposal to contribute to the discussion on e-commerce (WTO, 2016). This lists examples of positive contributions to a flourishing digital economy.

Over the years, a number of topics have been discussed in the WTO on e-commerce, some of which are highlighted below:

- Protection of personal information and privacy and the development of e-commerce;
- Rules supporting innovative advances in computer application and platforms;
- Enhancing internet connectivity and mobile telephones;
- Electronically delivered software;
- Cloud computing;
- Consumer protection;
- Access to e-commerce by MSMEs;
- Trade treatment of electronically delivered software;
- Jurisdiction and rules for applicable law to govern e-commerce;
- Classification of the content of certain electronic transmissions.

At the multilateral level, beyond the WTO, there is a need to understand how the 2030 Agenda for Sustainable Development will influence and be influenced by emerging issues at the WTO. The WTO Nairobi Package 'recognize[s] the role the WTO can play in contributing towards achievement of the 2030 Sustainable

Development Goals'. The 2030 Agenda recognises the importance of access to ICT and global interconnectedness: Sustainable Development Goal (SDG) 9 target 9.c is to 'Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.'

At the domestic level, ICTs will be important for developing countries in terms of technological upgrading across all sectors and the servicification of economies. As stated, e-commerce affects the 'production, distribution, marketing, sale or delivery goods', thus technological upgrading can be targeted across sectors to boost their competitiveness in global value chains, while tradable electronic services can help promote structural transformation in countries. Services are increasingly viewed as an important part of structural transformation processes, given that manufacturing sectors in many countries in Sub-Saharan Africa and Latin America are not delivering sufficient structural transformation. It is vital that developing countries proactively participate in the WTO e-commerce discussion in order to deliver a work programme that promotes their interests. At a more general level, technological upgrading overall and within the context of e-commerce can also contribute towards improved data collection in developing countries, as envisioned under the 2030 Agenda to achieve the SDGs.

6.5.2 A mega-regional perspective

At the regional trade level, the Trans-Pacific Partnership (TPP) agreement e-commerce chapter includes commitments ensuring companies and consumers can access and move data freely (subject to safeguards), which will help ensure the free flow of the global information and data. It also includes commitments on market access and national treatment, and other measures to help prevent unreasonable restrictions, such as the arbitrary blocking of websites.

According to the definitions in the TPP, 'digital product' means a computer programme, text, video, image, sound recording or other product that is digitally encoded and produced for commercial sale or distribution, and that can be transmitted electronically. Electronic transmission or 'transmitted electronically' means a transmission made using any electromagnetic means, including by photonic means.

The EU has made available a draft proposal that it submitted to the USA under the Transatlantic Trade and Investment Partnership negotiations. The chapter on e-commerce applies to telecommunications and other ICTs. It does not apply to gambling services, broadcasting services, audio-visual services, services of notaries or equivalent professions and legal representation services. The chapter on cross-border services deals with such issues (except audio-visual services). Electronic transmission shall not be subject to any customs duty, and the chapter highlights the need for cooperation, conclusion of contracts electronically and marketing communications. The chapter on cross-border supply of services deals with market access, national treatment and most-favoured nation obligations. However, none of the provisions in the draft defines the items covered under e-commerce.

At the bilateral level, trade agreements are also beginning to include provisions on e-commerce, for example the US Free Trade Agreements with Australia, Bahrain, Chile, Colombia, Korea, Morocco, Oman and Peru. The WTO has an important role to play in ensuring e-commerce policy does not become fragmented, with discord across different regional and bilateral trade agreements.

6.6 The economic impact of e-commerce

The globalisation of the world economy, advances in telecommunications and expansion of the services economy have reached such a stage that more and more transactions will be carried out through electronic means. E-commerce has a positive impact on economic growth, as it promotes consumption and generates income and employment. A study of the EU digital single market on macroeconomic impacts (Cardona et al., 2015) found that cross-border e-commerce reduced trade costs compared with offline trade. Increased price competition squeezes domestic retail price margins and has a negative output effect in that sector (-2.6 per cent). However, the resulting retail efficiency gains have a positive effect on production in other sectors (between 0.9 and 2.6 per cent) and on household consumption (+1.07 per cent). The combined macroeconomic effect of these transmission channels adds 0.14 per cent to EU GDP. Additional policy measures to facilitate cross-border e-commerce between EU Member States could add another 0.3 per cent to household consumption and 0.04 per cent to GDP, or 0.03 per cent in the more conservative estimate. Obviously, the findings would vary depending on the level of e-commerce infrastructure in different countries, the pattern and composition of consumption and the size of the market, for example.

The fact that e-commerce can reduce trade costs is of major significance to small countries, many of which face high costs as a result of their remoteness from main markets, their size and their level of technological development. E-commerce can facilitate the development of small-scale and medium-size enterprises, which dominate the business landscape of small developing countries.

In addition to the direct trade impact of e-commerce, the accounting of countries should also consider the indirect benefit and impact of e-commerce on, for example, investment, social development, education and health, to mention but a few. There is much room to research the economic impact of e-commerce on the socioeconomic development of a country or region. However, it should be emphasised that e-commerce cannot flourish by itself. The right environment needs to be in place for it to prosper and generate the expected benefits. This also depends to a large extent on the trade and production patterns of countries, as well as the sectoral composition of their economies. In some cases, economies highly reliant on the services sectors may gain more than economies engaged in primary sector production, although one can arguably claim that e-commerce has the capacity to touch on all sectors.

In the words of WTO Director-General Azevedo,

E-commerce is a transformative force in global trade, supporting growth, development and job creation. By reducing the trade costs associated with

physical distance, e-commerce allows businesses to access the global marketplace, reach a broader network of buyers and participate in international trade. In this way, e-commerce can also be a force for inclusion. Broader dissemination of such technologies means that the trade opportunities generated by e-commerce are also available to businesses in developing countries, with some of them making significant headway in recent years. But there is a long, long way to go. For example, Africa and the Middle-East share less than 2 per cent of the world e-commerce market. Similarly, we must ensure that e-commerce works as a springboard for smaller companies to compete and reach new markets.

In the context of WTO discussion on e-commerce, some members were interested in finding out more about the application of internal taxes or other charges to e-commerce by different countries. Divergent views were expressed on the actual impact of e-commerce with regard to revenue losses for developing countries. It is worth noting that the moratorium on imposition of customs duties on electronic transmissions continues. At the WTO's 10th Ministerial Conference in Nairobi in December 2015, a decision was taken that Member States would not impose any customs duty on electronic transmissions until the next meeting in 2017.

Actually, the benefits of e-commerce may not automatically flow to developing countries, but it certainly is an important tool of growth for them. As such, technical assistance alone may not be sufficient. Measures would have to be taken regarding access to basic infrastructure and technology, investment, market access, human resources and education. This chapter deals with these later on.

6.7 E-commerce, a catalyst for development: The case of small countries

Many small countries have certain common inherent characteristics that become extremely relevant in the context of e-commerce development; remoteness from market is a major problem. Transport and telecommunications costs, for example, affect their competitiveness to a significant extent. The product marketing and promotion aspect is also affected, as it often proves expensive to carry out marketing campaigns in remote markets. Further, the markets of these countries being small, many of them cannot afford the benefits arising from economies of scale, which seriously undermines the competitiveness of their produce. Similarly, the development of e-commerce can vary depending on the characteristics of countries. As Lawrence and Tar (2010) put it, 'different characteristics of infrastructural, socioeconomic and socio-cultural have created a significant level of variation in the adoption and growth of e-commerce in developing countries.' Table 6.4 shows variations in the use of internet among a group of small developing countries. As a basis for comparison, the percentage of individuals using the internet in the UK in 2015 was 92 per cent, against 70 per cent in 2005.

Given the special characteristics of the smaller and least developed countries and the prevalence of MSMEs and small producers in these countries, there are merits in exploring the potential for e-commerce to contribute to socioeconomic development

Table 6.4 Percentage of individuals using the internet

	2005	2015
Barbados	52.50	76.11
Dominica	38.54	67.60
Fiji	8.45	46.33
Kiribati	4.00	13.00
Botswana	3.26	27.50
Lesotho	2.58	16.07
Mauritius	15.17	50.14

Source: ITU

and to enhance their participation in the global economy. Bridging geographic distances, access to remote areas/markets and a wide range of services and small business development are some of the potential gains from e-commerce.

As indicated above, e-commerce has greatly expanded what is now considered as tradable, and, as such, subject to the pattern of such trade, developing countries may have a lot to gain from. In fact, as early as 2003, Humphrey et al. opined that e-commerce would become the new driver of economic growth for developing countries. Even prior to that time, Primo Braga (1997) was of the view that developing countries may find emerging satellite technology particularly interesting, as it could allow them to ‘leapfrog’ into the new ‘information age’ by skipping the stage of copper and other cable networks.

Nevertheless, uncertainties are inevitably created from such an expanded boundary of what is tradable, where all elements of the transaction process (advertising, purchasing, consuming) can occur in different jurisdictions. One clear uncertainty, which small countries should be cognisant of, is the challenge in determining where a transaction actually took place and thus potential impact on that jurisdiction, including from a regulatory standpoint. Further, e-commerce has wide-ranging implications that need to be thoroughly studied, such as those related to access, tax and revenue and intellectual property rights (IPR). Also, there is an enormous technology, infrastructural and regulatory (policy) gap to fill to unleash the full potential of e-commerce in these countries. Aid for Trade (AfT) could be one instrument that could be used to fill in the gap in developing countries, especially in building the e-commerce infrastructure.

The following key points provide guidance on policy development and negotiating positions on e-commerce:

- E-commerce facilitates the creation of and access to a truly global market, otherwise a major limitation for small countries.
- Services can be provided via the internet, eliminating the need for travel to or establish offices within a foreign jurisdiction, again another limitation for small states.
- Its use helps in mitigating the problems of exclusion and isolation, which are features of small countries.

E-commerce complements the drive by small states to transform themselves into service economies. The transformation of many small developing countries into service economies or at a minimum the drive to diversify their economies (especially in light of the erosion of traditional preferential agreements governing trade in goods) hinges on the ability for services sectors to, among other things, capitalise on their competitive advantage, mitigate the dis-economies of scale in non-service industries and therefore increase their level of competitiveness and participation in global trade. E-commerce directly impacts Modes 1 (cross-border trade) and 2 (movement of consumers) of supplying a service, and indirectly impacts Modes 3 (commercial presence) and 4 (movement of natural persons).

Essentially, e-commerce can circumvent the need for physical delivery or presence across the border in order to supply some goods and services. This means circumventing conventional forms of border measures, duties or taxes, resulting in reduced transaction costs. There is a clear impact on competition, as such circumvention can be viewed as trade-diverting. On the other hand, it is very probable that welfare benefits will accrue as well. It means too that questions arise about having to establish within a foreign jurisdiction to supply a service or to travel there in person. Additionally, small countries will find the ability to trade electronically leads to a tremendous reduction in administration and transportation costs.

There is an indication of an increase in the usage of internet in Sub-Saharan Africa, LDCs and small states. For instance, the average number of internet users rose from 1 in 100 in 2001 to 6 in 100 in 2011 for LDCs, 4 in 100 to 20 in 100 for small states and 1 in 100 to 13 in 100 in Sub-Saharan Africa over the same period. However, this rise in usage is low compared with that in high-income Organisation for Economic Co-operation and Development countries, which rose from 38 in 100 in 2001 to 77 in 100 in 2011. The technology on computers emerging with mobile phones is in its infant stage in Sub-Saharan Africa, LDCs and small and vulnerable economies, but already there are 84 million internet-enabled mobiles in Africa. In 2012, there were approximately 52 million Facebook users in Africa and 7 million in the Caribbean, including companies. There are therefore tremendous merits in investing in ICT in small states, LDCs and Sub-Saharan Africa in order to explore the full potential telecommunications and e-commerce can offer for their socioeconomic development and ensuring their integration into the global market place.

In order to highlight the areas of importance for small countries, Wunsch-Vincent's innovative approach has been drawn on. The author provides a comprehensive analysis of the treatment of e-commerce activities within the WTO by applying a 'baskets' approach to categorise related activities. This approach makes it easier to appreciate the span of e-commerce across the various aspects of the work of the WTO. We discuss these baskets and further assessments in detail below:

6.7.1 Basket I: IT goods

This category includes physical or tangible goods such as computers and semiconductors. These form part of the infrastructure needed to access the internet

to conduct e-commerce. The relevant rules are typically those reflected in the General Agreement on Tariffs and Trade (GATT). Small states could continue engaging in negotiations on IT if they are to benefit from opportunities created by e-commerce. An important aspect is the liberalisation of trade of IT goods, including a reduction in tariffs and other duties that such goods may attract. Small states should therefore ensure that the liberalisation of trade in IT goods complements a wider strategic plan to improve on the use of such goods to facilitate e-commerce—that is, seeing IT goods as a critical input into other sectors.

6.7.2 Basket II: Internet infrastructure services

This basket pertains to the virtual services needed to access the internet and as such includes both basic and value-added telecommunication services, as well as computer-related services, programmers and internet service providers (ISPs). General Agreement on Trade in Services (GATS) rules are directly applicable to these services, as reflected in the Agreement as well as the Schedules of Commitments of members. Since infrastructure services aid in facilitating access to the internet, and clearly stand out as a core aspect of e-commerce. As such, it is important that small states continue to engage in negotiations on these services. Human resource development within small states to be able to provide these services is also important, both for competitive supply at the domestic level and for the export of services.

6.7.3 Basket III: Electronically traded services

These are services that can be traded via the internet, including business, tourism, financial, professional and audio-visual services, to name a few. From a Mode 4 (movement of natural persons) perspective, there is the recognition also that being able to provide services via the internet reduces the need to actually enter another jurisdiction. Thus, the creation of virtual catwalks and portfolios, presentations via teleconferencing, transfer of completed designs, etc., enable professionals to remain in their home country and gain market access for their services. In addition to actually trading in goods and services, the internet allows for ‘telecommuting’, whereby people work from a remote terminal, such as at home. It is important that small states pursue the liberalisation of services sectors, including the traditionally conservative Modes 1 and 2. Small states again need to be strategic in the market opening granted as they pursue the liberalisation of foreign markets. The ability to provide professional, cultural and entertainment services, for example, will increasingly become key in the development of these sectors within developing countries. Small states need to increase their preparation for the shift to a virtual world, where each day new services are provided (telemedicine), jobs are created (bloggers, virtual assistants) and technology is innovated (advertising tools—Facebook, Twitter). Furthermore, electronically traded services have implications for organisational structure and can easily facilitate a remote business presence within any jurisdiction. This may have implications for foreign investment, as Mode 3 (establishment – commercial presence) within a country is being replaced by virtual offices. By extension, this has implications for investment in small states.

6.7.4 Basket IV: Digital products

Many products are traditionally traded in a physical form but technological advances mean they can now be traded in a digital form. Common examples are books, music, video games and movies. The entertainment sectors therefore stand to be severely affected by increased production and trade in digital products. An obvious implication is the impact on protecting the IPR associated with the production of digital products, as well as the trade-diverting effects that will be created. Also, engaging in e-commerce activities may affect government revenue insofar as goods are now purchased online and consumed electronically, thereby evading importation and attending duties. Sales taxes for such items are also impossible to institute, as the sales are technically conducted with a foreign jurisdiction. As indicated above, small states should consider the cost and benefits of supporting strong IPR protection of digital products. While this chapter highlights some of the core considerations, detailed analysis is required to determine how to shape small states' interests.

In summary, e-commerce affects ICT-related, commercial, governmental and the gamut of professional services. Not only is e-commerce important from an economic standpoint, but also it is critical to human resource development, such as through improving education and health. Further, small states can import needed services at a cheaper cost but also the potential for these states to increase their exports of services is a tremendous motivator to engage in dialogue on e-commerce, especially within the ambit of the WTO.

Small states have recognised this potential and are making great effort to capitalise on it. They are increasingly seeking to pursue development models that will position them as innovation-driven services economies. To fully actualise the possibilities, however, they must urgently address many challenges in the technical and legal/regulatory sphere to address.

6.8 The regulatory and other legal requirements for e-commerce

As mentioned earlier, one of the main conditions for the development of e-commerce is to have the right regulatory and legal infrastructure in place. This cuts across sectors.

6.8.1 E-commerce and trade in services

The GATS defines a service according to the medium through which the service can be delivered. Using four modes of supply—Mode 1 (cross-border supply), Mode 2 (consumption abroad), Mode 3 (commercial presence) and Mode 4 (movement of natural persons)—members undertake specific market access and national treatment commitments to facilitate the liberalisation of services sectors. Regulatory measures are also agreed and applicable in a general manner, through horizontal commitments plus specific commitments undertaken by countries. At the end of the Uruguay Round, members reached an agreement to continue negotiations on trade in basic telecommunication services. As such, the GATS Annex on Telecommunications

guarantees access to and use of public telecommunications networks and services. There was some reticence, however, as some developing countries—including small states—felt e-commerce and related activities were technically too complex to be negotiated at that juncture. What has been emphasised, however, is that GATS Articles VIII and IX and the Reference Paper on Regulatory Principles guard against the impairment of market opportunities through the denial of access to networks.

It can be agreed that most electronically delivered products are services and, as such, are governed by the GATS. Commitments in Modes 1 and 2 have been less than ambitious, however, and many countries have opted not to undertake market access and national treatment commitments, effectively not liberalising the cross-border supply of sectors that are transmittable through this means. Essentially, WTO members have not made significant commitments in services sectors where electronic delivery is feasible.

‘Barrier-free e-commerce would be more effectively secured by deepening and widening the limited cross-border trade commitments under the GATS, and by clarifying and strengthening certain GATS disciplines’ (Mattoo and Schuknecht, 2000). The core provisions of the GATS Annex on Telecommunications deal with access to and use of public telecommunications transport networks and services. These obligations apply regardless of whether a member has undertaken to liberalise access to its basic telecommunications sector under the GATS. If a specific commitment is made in the telecommunications sector itself, then a competing supplier of telecommunications services, whether basic or value-added, benefiting from such a commitment would be entitled to access to and use of established networks and services in just the same way as a supplier of any other service—essentially the right of interconnection.

It must be emphasised, however, that not all services regulatory measures are covered by a country’s services schedule of commitments—only those in which commitments taken are listed. For e-commerce purposes, the array of regulatory measures covered will be much wider. Telecommunications, financial services and delivery will all be relevant.

How LDCs make better use of the recently agreed LDC services waiver to develop the e-commerce sector remains an area to be studied further. This could provide useful guidance to other smaller countries in trade in services negotiations.

6.8.2 E-commerce and trade in goods

The Working Party on E-Commerce (WPEC) has identified the following as core issues forming the mandate of the Council on Trade in Goods.

- Market access for and access to products related to e-commerce;
- Valuation issues arising from the application of the Agreement on Implementation of Article VII of the GATT 1994;
- Issues arising from the application of the Agreement on Import Licensing Procedures;

- Customs duties and other duties and charges as defined under Article II of the GATT;
- Standards in relation to e-commerce;
- Rules of origin issues; and
- Classification issues.

In addition to the above, it is important to recall that the decision by the General Council in advocating a ban on customs duties was inspired pursuant to a proposal submitted by the USA in February 1998. This decision implies that electronic transmissions can attract customs duties and are invariably considered as importation of a good that would then be subject to GATT rules; further, the decision is not concerned with distinguishing electronic transmissions in terms of what they contain. This raises the issue of technological neutrality and what this means for both the classification and the treatment of e-commerce. Technological neutrality as a recognised principle, including in dispute settlement, essentially holds that a measure is not applicable or inapplicable owing to the use of technology; hence there is neutrality and application of the measure regardless of medium used or product type. The principle, in short, promotes identical treatment of goods and services.

According to Mattoo and Schuknecht (2000),

[T]he strength of the proposal for duty-free treatment is that for the limited class of electronically delivered media products, it may ensure that trade in future, as at present, is free of restrictions – provided it is agreed that such products should be treated as if they are goods. The weakness of the proposal is that it does not take into account the trade regime for services, which constitute the bulk of electronically transmitted products.

WTO members, such as the EU, on the other hand, have proposed that electronic transmissions be classified as services and therefore be subject to GATS rules. This has been assessed as a move to be able to restrict the importation of audio-visual services.

There was a considerable amount of discussion in the WTO on the classification of digitised products and how it would fit within the rules. The Harmonised System, upon which GATT concessions are negotiated, covers only goods that have physical characteristics, and it is not possible to fit electronic transmissions within the existing nomenclature. Further, the need for a concrete definition of 'digitised product' was mooted, given that many countries were not sure if the coverage would include many different things like architectural designs, health check reports and fashion design, etc., which may be sometimes vague (earlier on in the chapter we referred to a definition for digital trade). There are also likely to be overlap and confusion between application of the GATT and the GATS to digitised products.

For example, after an order is placed, software can either be downloaded or be delivered across the border by post. The two transactions may be exactly the same, and it is simply the customer's choice as to which way the software is supplied. Here,

there may be inconsistencies between the commitments under the GATS and those under the GATT when the product is delivered physically. In this case it is not only the GATT that applies but both the GATT and the GATS, because the GATS applies to the distribution transaction and the GATT to the physical product. Many members thus believed that analysis of the scope called for its classification as a cross-cutting issue and should be further explored.

Notwithstanding the above classification challenges, any discussion on access to the internet as a medium that greatly facilitates e-commerce is closely linked to the establishment of requisite infrastructure and hardware. This implies that, even where there is extensive liberalisation of services that can be provided through electronic or digital means, absence of the required infrastructure effectively negates the drive to export services. Essentially, if there is no internet, there is no e-commerce. The importance of the role played by the rules governing market access for relevant infrastructure has to be underscored.

Essentially, small countries need to determine how best to ensure the goods (semiconductors, computers etc.) needed to promote the development of supporting e-commerce infrastructure can gain access to its markets. This strategic determination must be complemented by a push for the liberalisation of the services sectors of importance to small countries as they seek to export services of interest via Modes 1 and 2 in particular. The impact in Modes 3 and 4 are also important considerations, as e-commerce affects all modes of supplying a service, whether directly or indirectly. For developing countries, the emphasis has traditionally been on making offers in market opening in Mode 3 and requesting entry through Mode 4. More emphasis on Modes 1 and 2 is therefore relatively new to small countries. The disciplines to facilitate trade in services are established; however, progress on liberalisation has not been required to facilitate substantive free movement. While there is no way of compelling liberalisation of services within the WTO framework, states are increasingly pursuing GATS V-compatible agreements, wherein ambitions for access and entry are more favourably considered.

The expansion of the Information Technology Agreement, agreed at the Nairobi Ministerial Conference in December 2015, eliminates tariffs on an additional 201 IT products valued at over US\$1.3 trillion per year. Negotiations were conducted by over 50 WTO members but all 162 WTO members will benefit from the Agreement, as they will all enjoy duty-free market access to the markets of the members eliminating tariffs on these products. IT products are essential for the development of e-commerce. Eliminating tariffs in a further set of products will allow industry to reduce the cost of importing the hardware necessary to develop the IT sector, create highly qualified jobs for young people, make other industries more efficient by using IT and enable countries to become part of global value chains.

6.8.3 E-commerce and intellectual property rights

IPR are important because the things of value that are traded on the internet must be protected, using technological security systems and intellectual property (IP) laws,

or else they can be stolen or pirated and whole businesses can be destroyed. Also, IP is involved in making e-commerce work. The systems that allow the internet to function—software, networks, designs, chips, routers and switches, the user interface and so on—are forms of IP and often protected by IPR. Trademarks are an essential part of e-commerce business, as trademarks and unfair competition law protect branding, customer recognition and goodwill, which are essential elements of web-based business.

E-commerce and internet-related businesses are based on product or patent licensing. This is because so many different technologies are required to create a product that companies often outsource the development of some components, or share technologies through licensing arrangements. If every company had to develop and produce all technological aspects of every product independently, development of high-technology products would be impossible. The economics of e-commerce depends on companies working together to share, through licensing, the opportunities and risks of business. Many of these companies are small and medium-sized enterprises.

Finally, e-commerce businesses usually hold a great deal of their value in IP, which will thus be affected by whether the IP has been protected. Many e-commerce companies, like other technology companies, have patent portfolios and trademarks that enhance the value of their business. Within the context of this discussion on e-commerce and IP, it should be noted that the WTO and the World Intellectual Property Organization have undertaken work in different areas, with the former obviously focusing on the relationship between IP and trade in goods and services and the latter on the scientific areas of work related to IP.

The WTO TRIPS Agreement requires all WTO members to have TRIPS-compliant IP legislation, with the exception of LDCs, which are currently benefiting from an extension period till July 2021.

In maintaining analysis within the context of the WTO, it is important to note the discussion on e-commerce within the WPEC and the TRIPS Council. As previously indicated, the WPEC included dedicated tasks for the TRIPS Council, pursuant to the Geneva Ministerial, to examine all trade-related issues stemming from e-commerce. Essentially, the WPEC identifies that the TRIPS Council shall examine and report on the IP issues arising in connection with e-commerce. Issues that should be of central focus are (i) protection and enforcement of copyrights and related rights; (ii) protection and enforcement of trademarks; and (iii) new technologies and access to technology.

In a broad assessment of proposals made to date, recommendations lean towards strong IPR protection for all forms of technology on the internet, including protection of copyrights in the digital environment by embracing the principle of technological neutrality. Application of this principle is also viewed as applicable to rules on enforcement, such as any violation of IPR on the internet. Eugui (2001) opines that this approach will place an additional burden on developing countries, which will be

challenged to enforce these obligations given, *inter alia*, the status of their IP platform and legal environment.

It is nonetheless important to note the crucial role IP can play in technology transfer to least developed and smaller developing countries. Article 66.2 of the WTO TRIPS Agreement provides that, '[d]eveloped country members shall provide incentives to enterprises and institutions in their territories for the purpose of promoting and encouraging technology transfer to least developed country members in order to enable them to create a sound and viable technological base.' This provision is a sound and effective basis to promote technology transfer in the field of e-commerce and is a positive obligation.

In providing a detailed assessment of copyrights and neighbouring rights, Eugui (2001) further identifies the potential and economic interests attached to the export of activities such as culture and folklore through literature translation works and audio-visual services, to name a few. The protective role played by IPR enforcement in assisting artisans, such as authors, composers, performers, producers and broadcast organisations, to protect their original works and profit from their creative or economic activities in the marketplace is also noted. While such protection may be attractive and beneficial for smaller countries, there is also recognition that accommodating the use of works for non-commercial (e.g. academic) purposes should be thoroughly assessed as the protection of internet content is developed.

The implications of increased protection of internet-based IP and content for developing countries, including small states, are varied, as they generate both costs and benefits. Some of the costs include:

- Issues related to new and possibly unknown rights, such as patents on new business procedures;
- Increased and costly borderless enforcement obligations;
- Erosion of the principle of territoriality;
- Patents that limit innovation;
- Jurisdictional problems;
- Increases in the existing imbalance between excessive private rights and public rights;
- Issues related to the protection of consumers and providers.

Essentially, people using the internet as a basis for conducting commerce must be protected against malicious practices such as fraud. Consumers often have to provide their personal details to be able to effect transactions online. With insufficient protection, there is a high risk that these personal details will be hacked and eventually land in the wrong hands. Similarly, ISPs must provide various business details, which also may be exposed to misuse. In these circumstances, legislation to protect both consumers and providers becomes imperative.

6.9 Conditions for the development of e-commerce in small countries

At this point, it is worth recalling the previous WTO Ministerial Decision, in Bali in 2013, on e-commerce, which called on the WTO Committee on Trade and Development to examine and report on the development implications of e-commerce, taking into account the economic, financial and development needs of developing countries. Issues to be examined included:

- Effects of e-commerce on the trade and economic prospects of developing countries, notably of their small- and medium-sized enterprises, and means of maximising possible benefits accruing to them;
- Challenges to and ways of enhancing the participation of developing countries in e-commerce, in particular as exporters of electronically delivered products;
- Role of improved access to infrastructure and transfer of technology, and of movement of natural persons;
- Use of information technology in the integration of developing countries in the multilateral trading system;
- Implications for developing countries of the possible impact of e-commerce on the traditional means of distribution of physical goods;
- Financial implications of e-commerce for developing countries.

As explained in this chapter, small countries have inherent disadvantages. In addition to the above, targeted support for them will enhance their participation in the global trading system through e-commerce.

Rhone (2009) has produced a detailed concept note geared towards developing a strategic plan on computer and related services in the Caribbean Community Single Market and Economy. Its recommendations are also applicable to small countries in general and include, among others, adopting least trade-restrictive, non-discriminatory treatment for e-commerce; harmonisation of regulations on e-commerce; liberalisation of infrastructure services that enable the development of e-commerce; and having IP protection in place. While it is necessary to put in place national trade policies (less trade-restrictive) and develop infrastructure that favours the development of e-commerce, it is imperative that smaller countries participate in the global rules-setting process and development discourse and bring forth the need to address e-commerce challenges and barriers so they can create and benefit from opportunities. Recommendations towards this end centre on fundamental elements covering trade in goods and services; infrastructure and access challenges; IPR; and the domestic policy environment, and include:

- Full analyses of the implications for small countries of the technological neutrality principle;
- Identification and assessment of IP content within products and services of export interest to developing countries, particularly in relation to value chain analysis.

Such assessments will complement the need to actively participate in the MiWi discourse without the assumption of obligations. This should also prompt small countries to more actively determine areas for exemption from IP protection, such as for academic and educational usage;

- Augmenting domestic investment with foreign investment into IT-related sectors, particularly those that will facilitate capacity and skills improvement and technology transfer. Smaller countries should embark on the creation of export processing zones and incentives for the establishment of e-commerce parks with the long-term strategy of moving up the value chain;
- In a similar manner to what is being achieved through the UN Global Compass, exploration of corporate social responsibility within the context of encouraging transnational and multinational corporations to permit the use of technology by smaller countries;
- Continuity of efforts by international organisations such as UNCTAD, the Commonwealth Secretariat and the International Trade Centre to support small countries in understanding e-commerce matters, removing barriers to exports and increasing technology flow;
- Pursuing the liberalisation of relevant goods and services that support and will expand the communications platform. This is achievable through multilateral liberalisation, to ensure provision of the hardware and software necessary to develop electronically sellable services. It is critical that access is affordable;
- Exploration of the benefits of signing the Information Technology Agreement, given in particular the expected emphasis to be placed on expanding the agreement to an 'ITA 2';
- By using development support platforms such as AfT, small countries pursuing development of the basic infrastructure necessary for the smooth functioning of the internet, including through AfT facilities. This includes facilities to conduct financial transactions on the internet;
- Within the context of the GATS, negotiation of access to developed country markets in sectors to which they can export services by electronic medium;
- In the eventual scenario of a multilateral agreement on e-commerce, exploration of the option of having provisions linking obligations to the capacity to implement and technical assistance, similar to the Trade Facilitation Agreement.

6.10 Conclusion

This chapter has examined different dimensions of e-commerce. The subject area is vast, covering technological factors to regulatory environment. The number of stakeholders involved in its development is equally numerous. Given the trend in the development of this sector, governments and international organisations will no doubt confront the reality of having to address the challenges it poses. What is also evident is that, to fully benefit from the benefits of e-commerce, developing

countries, especially small ones, will need support and technical assistance. AfT and other international initiatives on e-commerce will have to address the development dimensions well in this regard.

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