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- Caribbean DMS Limited.

Directors Message

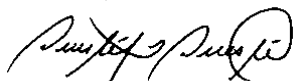
I am pleased to present the results of the 2003 National E-Commerce Secretariat's (NeCS) Surveys on E-Commerce Usage and Awareness among Businesses and Households. Previously the lack of readily available data on the use of ICT and electronic commerce by the business sector and households has been a major obstacle to strategic decision-making, in identifying priority areas of policy action, allocation of resources, monitoring, assessing and revising e-commerce strategies.

The Government of Trinidad and Tobago has recognized the potential benefits of e-commerce as an engine of growth and development of the economy and will collect and analyse electronic commerce data on households and businesses on an annual basis. This information will assist Government in developing national policies and strategies to promote the digital economy as well as determine the adoption rate of e-commerce and the perceived barriers to its development among businesses and households.

This report presents a brief overview of the findings of our 2003 national surveys. The full results of these surveys are available on our website at <http://ecommerce.gov.tt/2003survey/>.

It is the hope of the NeCS that you find the information contained in this report useful and that it contributes to the understanding, by both citizens and businesses, on some of the issues involved in electronic commerce.

Yours truly,



Quinten Questel
Director, National E-Commerce Secretariat
Trinidad and Tobago

Household Survey: Introduction

Access to personal computers (PCs) worldwide is calculated at about nine (9) machines for each 100 inhabitants. Worldwide figures for Internet users in 2002 were estimated by the International Telecommunications Union (ITU) at 144 million with 112 million users in the entire Americas region. These Internet users spent approximately US\$935 billion in 2002, which is a small but significant figure of spending on all Internet-based transactions.

In Trinidad and Tobago, one (1) in every three (3) persons surveyed, indicated that they have used a computer. Two (2) out of three (3) computer users use the Internet and one (1) out of five (5) Internet users have engaged in e-commerce activity. Locally, this simply means that if there is to be an increase in the volume of e-commerce activity, then there needs to be an increase in the number of persons that have access to a computer as well as those who use the Internet.

The OECD definition of an e-commerce transaction is "placing an order over the medium of the Internet, which does not necessarily include payment or delivery using the Internet". A local example of this definition of e-commerce activity may be found in the foreign-used car market. Many people search for and identify their product online while making payment and delivery arrangements in a physical setting. It is thus important to measure

the number and penetration of Internet users, since there are many instances of e-commerce activity occurring through the use of the Internet by consumers engaging in one or more phases of the buyer behavior process.

Significant also to e-commerce in this study are the number of computers that exists and the penetration of computer ownership by household. Citizens cannot use the Internet and e-commerce unless they are provided with convenient access to the tools - a computer and Internet connectivity. There are instances where public access points are a convenient and beneficial substitute, but to ensure consistent and pervasive use of the technology, there must be more home ownership, where everyone could have ready access regardless of age, ability, and job function or income level.

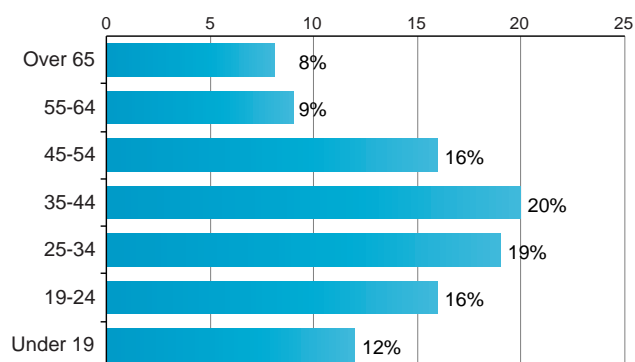
There also needs to be building of capability and capacity. Citizens must develop the skills and the confidence to adopt the technology as a part of their everyday life. While the Internet and electronic commerce can be described as the alternative medium to transacting business, it is becoming increasingly popular within a seamless global environment. Information and Communications Technologies (ICTs) are changing the way that we work, interact socially and develop ourselves, and the way in which we actively become participants in a knowledge-based economy.

Methodology

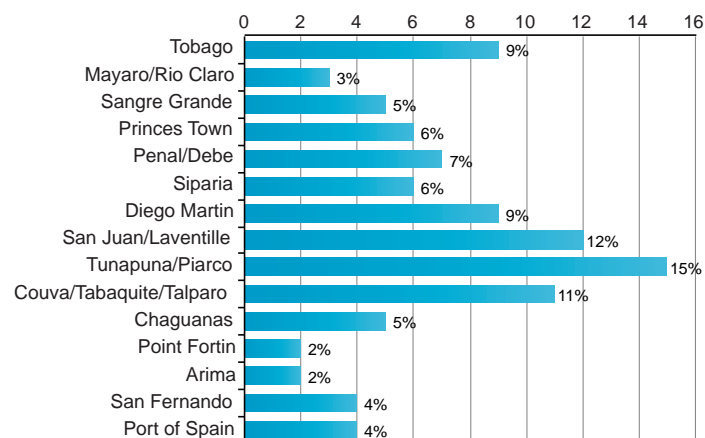
Sample Selection

The survey was conducted over a six-week period between May and July throughout Trinidad and Tobago. Enumerators conducted live interviews using a standard questionnaire. This achieved a response rate of 92%. The sampling methodology was designed by the Central Statistical Office which was created using a sample frame of 1,890 households. These were randomly selected using 338 enumeration districts nationwide, representative of the distribution of households as recorded by the National Population Census 2000 (the region of Tobago was oversampled). The households yielded responses from 4,457 individuals whose eligibility was determined by an age qualification of 15+. The demographics are distributed as follows:

Individuals by age



Households by region



Indicators

Given the desired level of e-commerce penetration over time, this survey has sought to create baseline indicators within three categories:

- **E-Readiness:** The availability of the infrastructure and pervasiveness of tools to allow for e-commerce activity
- **E-Activity:** The penetration and patterns of Internet and e-commerce activity
- **E-Impact:** Increase in awareness of e-commerce and confidence in its use, economic impact of e-commerce activity (change in purchasing habits, inflows and outflows of foreign exchange etc.), perceived barriers to adoption

E-Readiness	E-Impacts	E-Activity
<ul style="list-style-type: none"> • % of households with computers • % of households with Internet access • Type of Internet access 	<ul style="list-style-type: none"> • % of individuals who use the computer • % of individuals who use the Internet • Frequency of use • % of individuals who make Internet purchases • Types of products/services made on the Internet • \$\$ spent on Internet purchases • Method of payment used to complete Internet purchases 	<ul style="list-style-type: none"> • Awareness of the Internet and e-commerce • Willingness to use government services online • Trust and confidence in using the Internet and e-commerce

IT Ownership Usage and Awareness

Computer ownership by household

Two out of three of households that reported owning a computer also have access to the Internet. Most of these homes have this access through a dial-up modem.

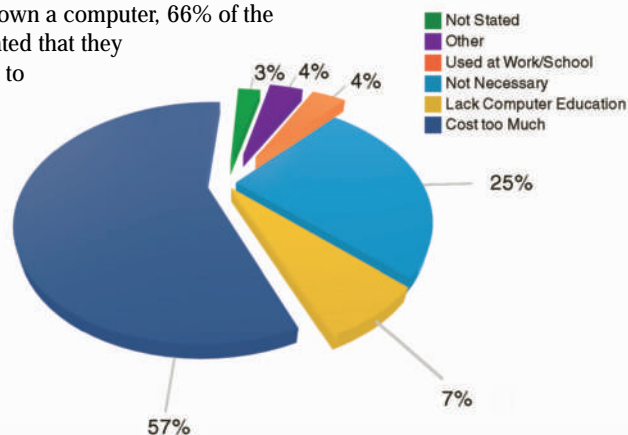


Internet Access (by Households that own computers)



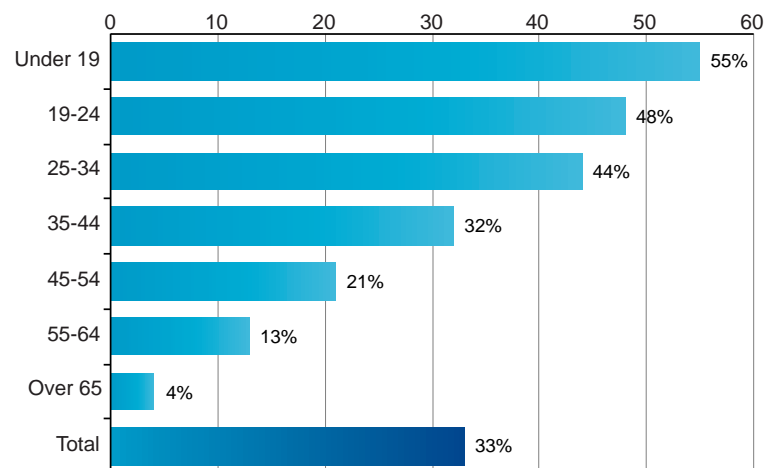
Reasons for not owning a computer

For households that do not own a computer, 66% of the sampled respondents indicated that they actually did have intentions to acquire one, in the varying time frames indicated. There were several reasons cited for not owning a computer, the most dominant being that they cost too much. This further confirms the penetration of ownership by income level.



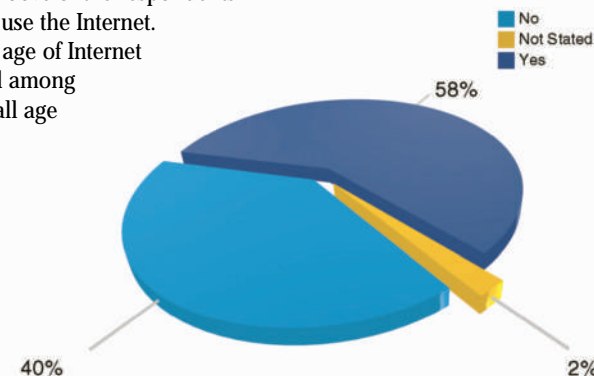
Computer Usage by Age Group

By individual, one out of every three respondents surveyed indicated that they use the computer. By age, younger persons are the highest number of computer users within their age groups - the 15-24 age group followed by the 25-34 age group are the highest.



Internet Usage (of persons who use the computer)

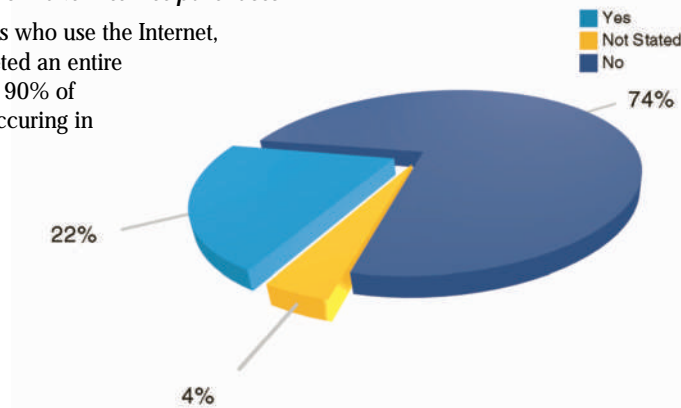
Of computer users, 58% of the respondents indicated that they use the Internet. Distribution by the age of Internet users is well spread among computer users of all age groups.



Patterns of E-Commerce Activity

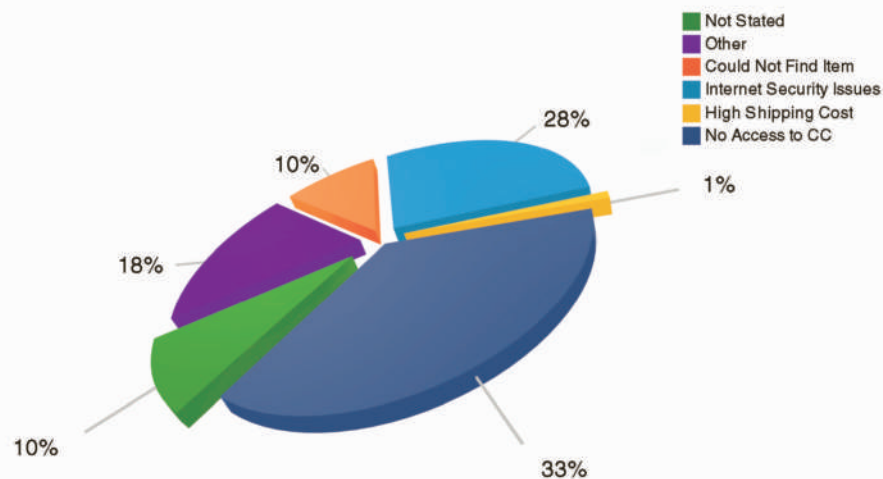
Internet users who make Internet purchases

Of the respondents who use the Internet, 22% have completed an entire Internet purchase, 90% of these purchases occurring in the past year.



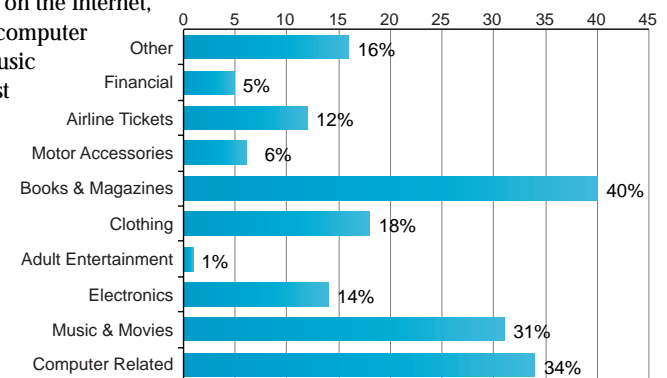
Reasons for not making an Internet purchase

For respondents who did not make any purchases, the main reasons cited for this is that there is no access to a credit card to pay and the issues of security with Internet shopping.



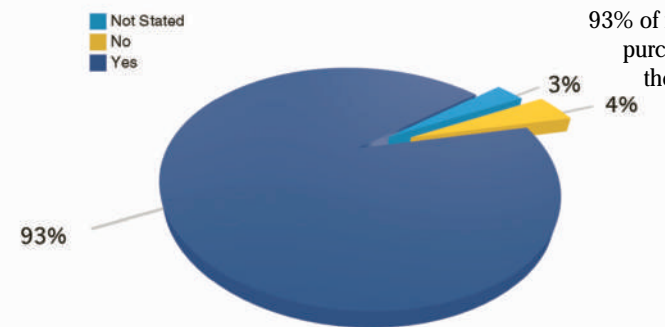
Types of products/services purchased online

Of the products bought on the Internet, books and magazines, computer related products and music are the most popular. The dollar values spent on these purchases were weighted heavily at either end of the scale of less than TT\$500 to greater than TT\$2500.



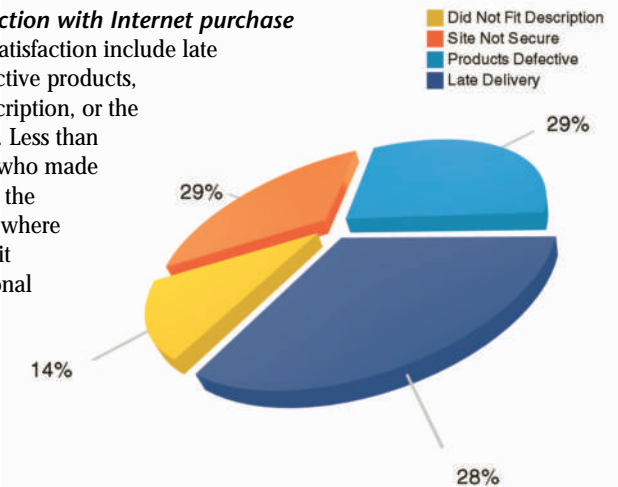
Satisfaction with online purchases

93% of respondents who made a purchase online reported that they were satisfied with the experience.



Reasons for dissatisfaction with Internet purchase

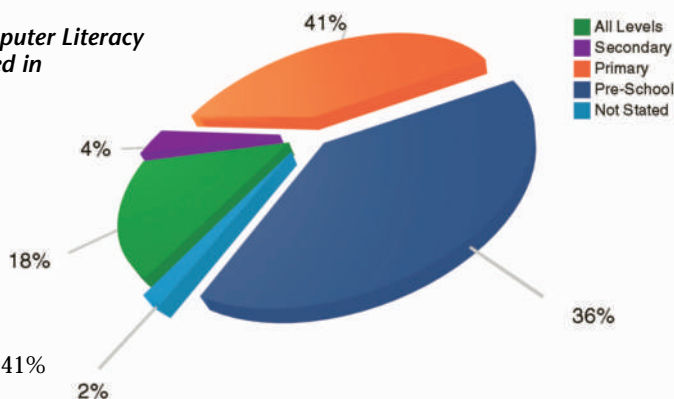
Reasons cited for non-satisfaction include late arrival of product, defective products, products not fit the description, or the website was not secure. Less than 1% of the respondents who made a purchase online were the victim of Internet fraud where someone use their credit card or stole their personal data (chart not shown).



Opportunities for the Internet and E-Commerce

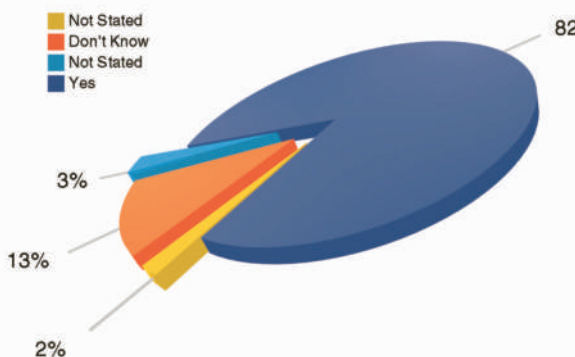
Level at which Computer Literacy should be introduced in schools

When asked at what point of the school curriculum computer literacy should be introduced, 36% of the respondents believe that it should be in pre-school and 41% in primary school.



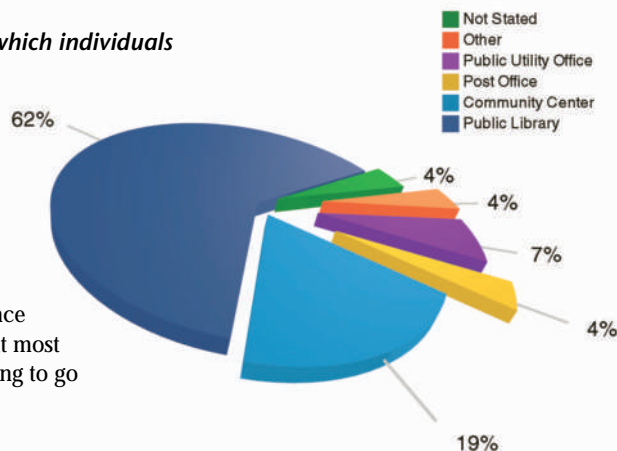
Individuals willing to use a public facility to access the Internet

The majority of respondents indicated that they would be willing to use a public facility to access the Internet and 82% would specifically support the introduction of government sponsored Internet kiosks.



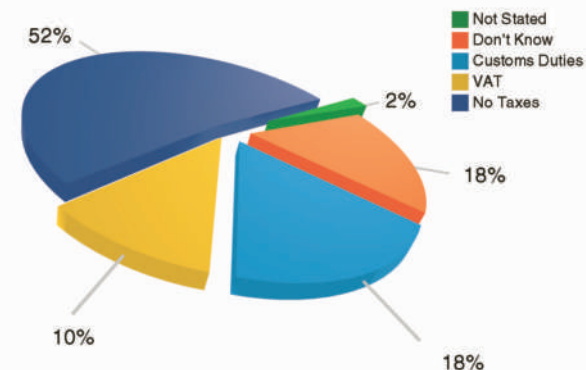
Type of public facility at which individuals would access the Internet

62% of the respondents surveyed indicated that they would use the public library while 20% indicated that they would use a community center. Most respondents would be willing to travel some distance to use an Internet facility but most of them would only be willing to go between 1 and 5 miles.



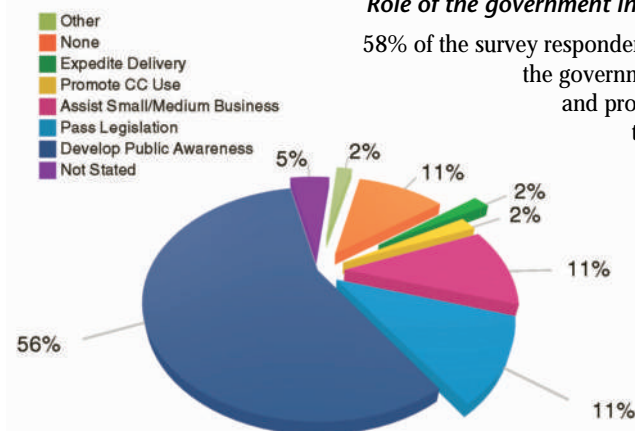
Taxes on Internet transactions

Of all of respondents sampled, 52% of the respondents also indicated that Internet transactions should not be taxed. A smaller number agreed to Value Added Taxes or customs duties.



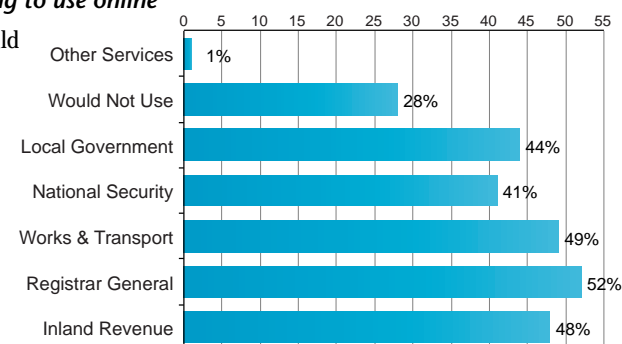
Role of the government in promoting e-commerce

58% of the survey respondents believe that the role of the government should be to develop and promote public awareness in the use of the Internet and electronic commerce.



Type of government services that individuals would be willing to use online

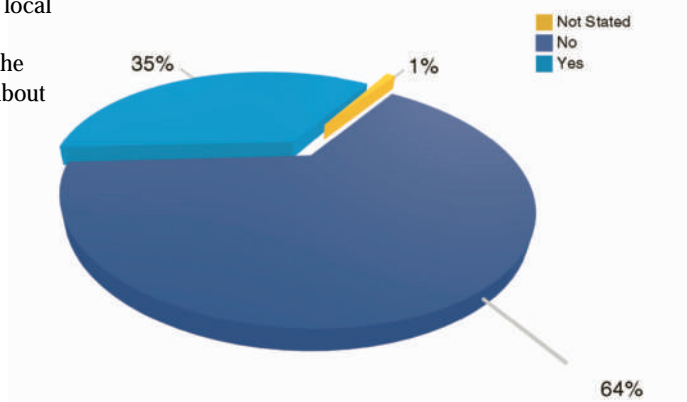
64% of the respondents would accept information from the government via electronic mail. 70% indicated that they would use government services online. Services would include those provided by bodies such as local government and the registrar general.



Barriers to Adopting Internet and E-Commerce Usage

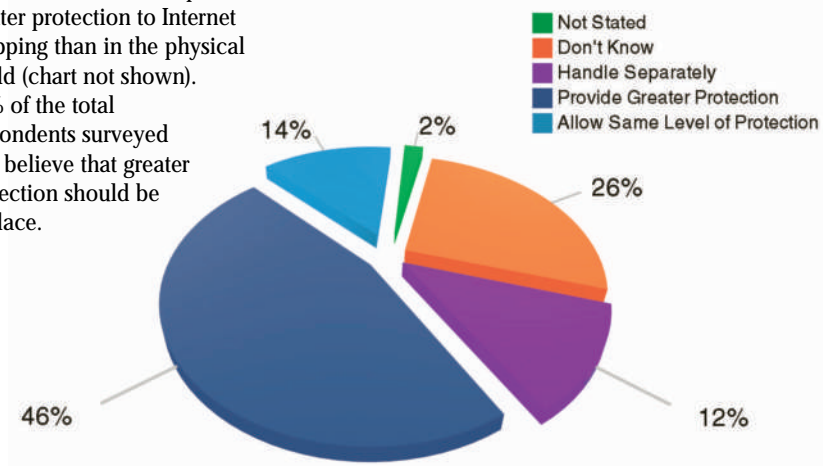
Individuals awareness of e-commerce activity in Trinidad and Tobago

In terms of awareness of local e-commerce efforts and initiatives, only 35% of the respondents had heard about e-commerce activity in Trinidad and Tobago.



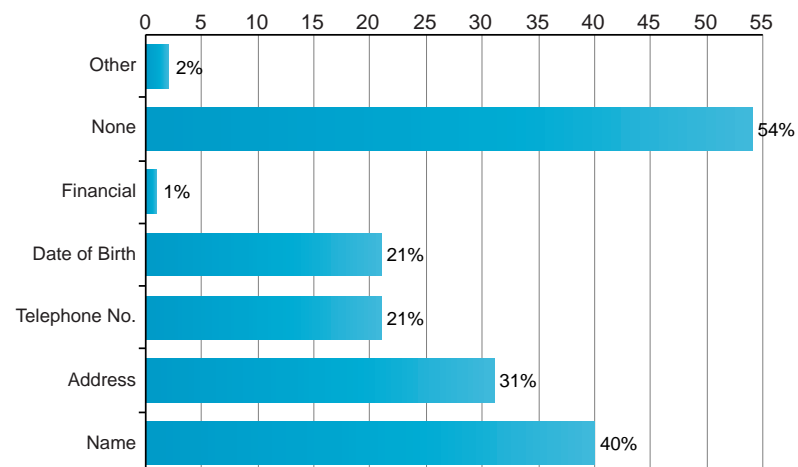
Current consumer laws applicable to Internet transactions

62% of the survey respondents who made a purchase on the Internet believe that the current consumer protection laws should provide greater protection to Internet shopping than in the physical world (chart not shown). 46% of the total respondents surveyed also believe that greater protection should be in place.



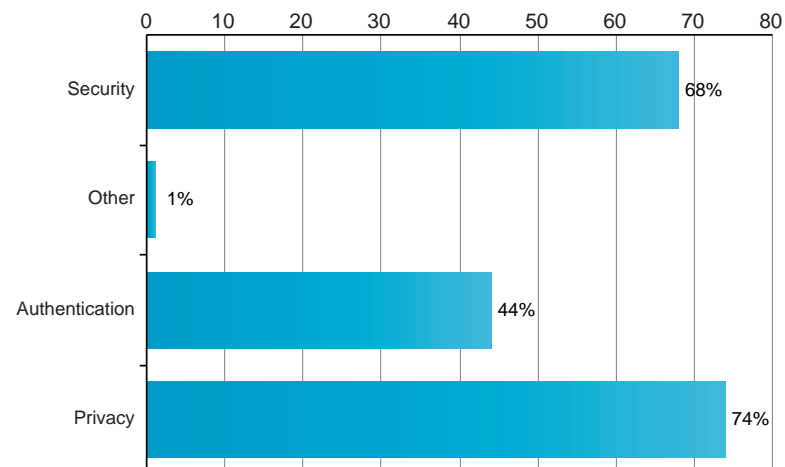
Information that individuals are willing to place online

While 54% of the survey respondents indicate that they would not provide any information online, there are varying degrees for the different types of information. 58% surveyed would not provide their name online, 77% their telephone number online and 98% any financial information online.



Issues of trust and confidence affecting e-commerce

Of the issues affecting trust and confidence of providing personal information online, 68% of the respondents cited reasons of security, 74%, reasons of privacy and 44%, reasons of authentication. These figures are higher respondents who have made Internet purchases, with 85% indicating security, 82% among privacy and 67% authentication.



Business Survey: Introduction

Businesses worldwide have adopted technology as a means of providing and using information on their operations - immediate information on customers, sales and marketing designed to improve their product and service delivery; collaborative information to share on business operations to improving internal communication and knowledge management; information that flows seamlessly across geographical borders and time zones. E-commerce is a practical application of using this information to achieve competitive advantage with the global marketplace.

In Trinidad and Tobago, most of the businesses surveyed, indicated that they used computers and the Internet to assist in improving their image as well as customer service. A smaller number actually engage in selling online - completing an entire transaction with little physical contact with their customers. This is just a small fraction of the enormous potential benefits of having a web presence and allowing for marketing and selling products both locally and internationally.

The OECD defines an e-commerce transaction as placing an order over the medium of the Internet, which does not necessarily include payment or delivery using the Internet. Businesses therefore have the opportunity to realize the benefits of e-commerce without dispensing completely of their existing business processes and operations. There must be harmony between the physical and the virtual especially when firms want to manage the risks associated with doing business online. It is thus important

to measure the use of the Internet and website activity of businesses, especially if payment and delivery take place off-line.

Pertinent also to this study are perceived barriers to e-commerce that exist locally. There are examples of local businesses that have made successful inroads into markets while using e-commerce as a complementary business strategy. However, many more businesses are not confident that the local infrastructure - availability of equipment, public infrastructure and skilled human resources - could support any sustainable attempts to engage in e-commerce. The government is seeking to establish public awareness programmes as well as advisory services which would assist in removing some of these perceptions.

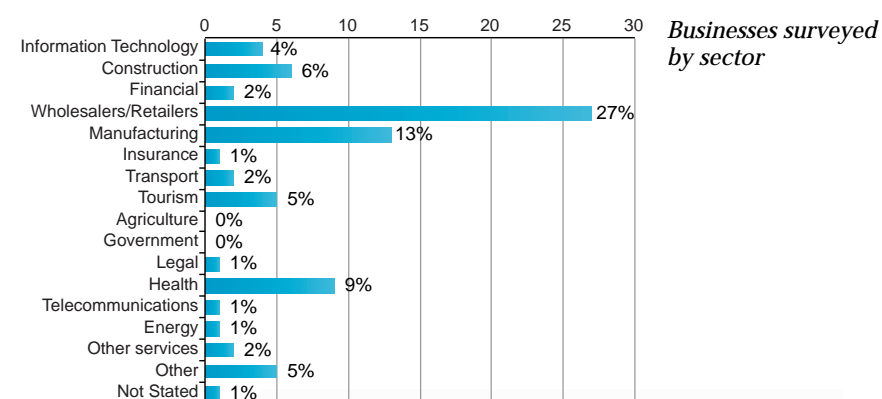
In the absence of an adequate policy and legal framework to address a number of legal issues that are peculiar to the electronic environment, the growth and development of electronic commerce is severely hindered. For example, there is no clear policy so far, on the taxation of electronic transactions and findings from studies such as these can provide a starting point for discussion on these and other issues, in propelling the policy-making process. The views expressed on the respective roles of the government and the private sector in the management of the Trinidad and Tobago country code Top Level Domain are also very instructive and will be extremely helpful in shaping the policy framework for the administration of the .tt domain space.

Methodology

Sample Selection

Businesses for enumeration were chosen via a stratified sampling design. The population consisted of all firms operating in Trinidad and Tobago and listed on the Central Statistical Office's Business Register. Firms on the Business Register were distributed into strata based on their main business activity and in accordance with the established industrial classification.

A sample consisting of 800 businesses was drawn from the Business Register with sample elements being chosen at random from each stratum in proportion to the stratum's relative size to the population size. For the purposes of this survey, a small firm is defined as a business entity that has less than 25 employees. A medium sized firm is one which employs from 26 to 50 employees while a large firm employs in excess of 50 employees. The response rate for the survey was estimated at 55.3%. This result is attributed to the effects of the operation of the constraining factors during the enumeration period. Nonetheless, these figures corresponded to an estimated error in estimates of $\pm 4.6\%$ at the 95% confidence level. The final sample consisted of 442 firms whose distribution is shown in the graphs below.



Businesses surveyed by size



Indicators

Given the desired level of e-commerce penetration over time, this survey has sought to create baseline indicators within three categories:

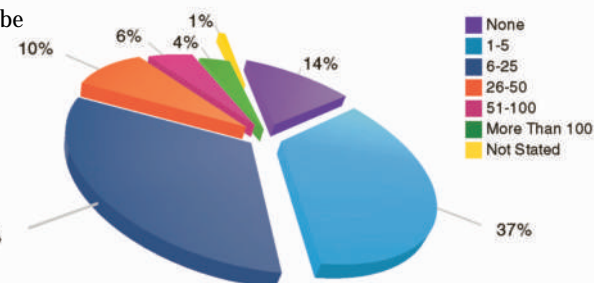
- **E-Readiness:** The availability of the infrastructure and pervasiveness of tools to allow for e-commerce activity
- **E-Activity:** The penetration and patterns of e-business and e-commerce activity
- **E-Impact:** Increase in awareness of e-commerce and confidence in its use, economic impact of e-commerce activity (change in purchasing habits, inflows and outflows of foreign exchange etc.), perceived barriers to adoption.

E-Readiness	E-Activity	E-Impacts
<ul style="list-style-type: none"> • % of businesses with computers • % of businesses with Internet access • Type of Internet access • % of businesses with websites 	<ul style="list-style-type: none"> • % of businesses that use the computer • % of businesses that use the Internet • Dependence on IT for daily operations • % of businesses that engage in online use of sales • % of businesses that engage in online activities of the value chain • Types of products/services made on the Internet • \$\$ spent on Internet purchases • Method of payment used to complete Internet purchases 	<ul style="list-style-type: none"> • Awareness of the e-business and e-commerce • Willingness to invest in IT infrastructure • Increase in sales from e-commerce • Development and implementation of e-commerce strategy • Trust and confidence in using e-business and e-commerce

IT and Internet Usage

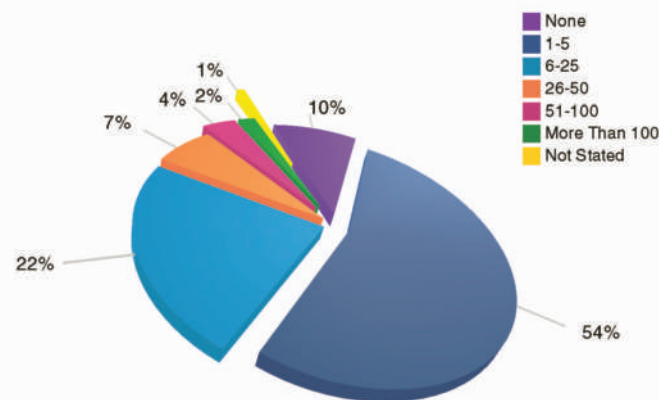
Company ownership by company

Computer ownership seems to be well-established among local businesses as 86% of all firms surveyed indicated that they had computers. At least 2 out of 3 firms in each sector also indicated that they had computers. 52% of the businesses surveyed indicated that they were totally dependent on computers for their business operations (chart not shown).



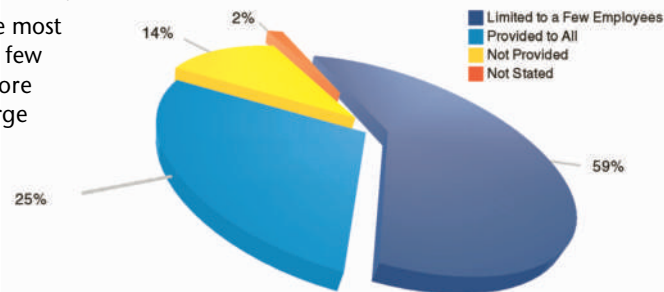
Computers with Internet Access

90% of all of the businesses that own computers also have access to the Internet. 71% of these businesses use dial-up as their means of accessing the Internet. Dial-up access is most pervasive within the small business community, while the larger businesses also use the options of leased lines and wireless connections.



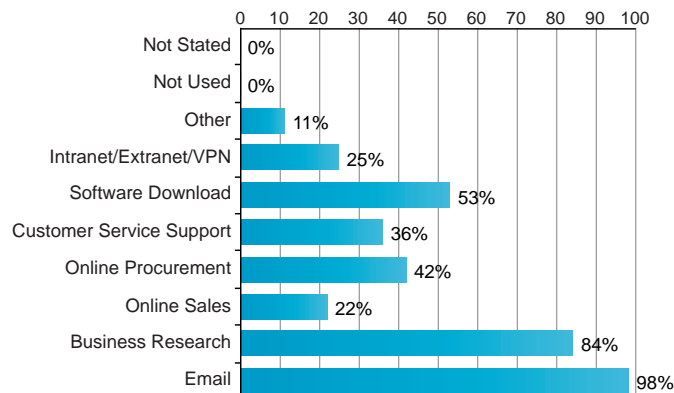
Internet access by employee

Internet access for the most part is limited to a few employees and more restricted in the large companies.



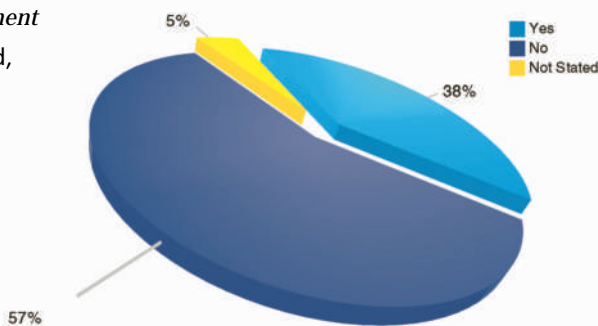
Internet Usage by company

98% of the businesses surveyed who had Internet access, use it for e-mail, and 84% of them use it for business research.



Employment of a full-time IT administrator or IT department

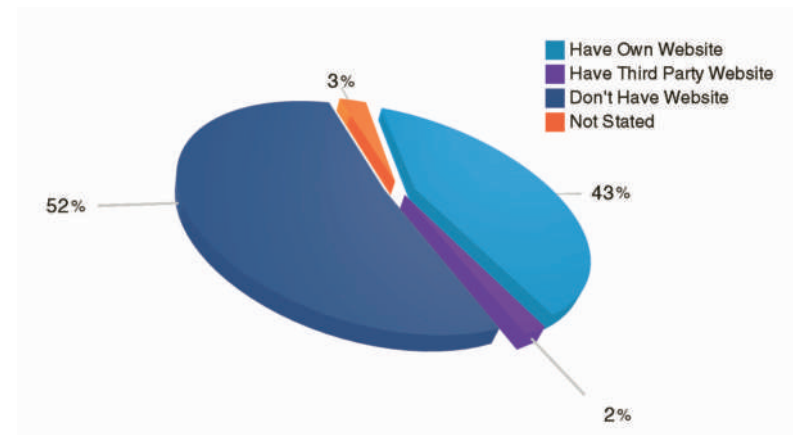
Of the businesses surveyed, 38% have a full-time IT administrator or department. Among the large businesses, 70% have a full time IT administrator. 59% of these IT administrators are a part of the executive management team of the company (chart not shown).



E-Commerce Activity

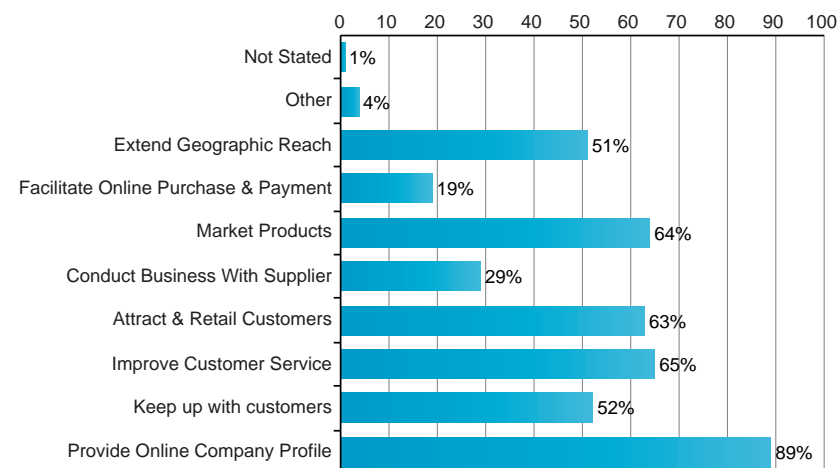
Website Ownership

One of the fundamental components of e-commerce activity is the ownership of a website. 43% of the businesses surveyed responded that they had their own website.



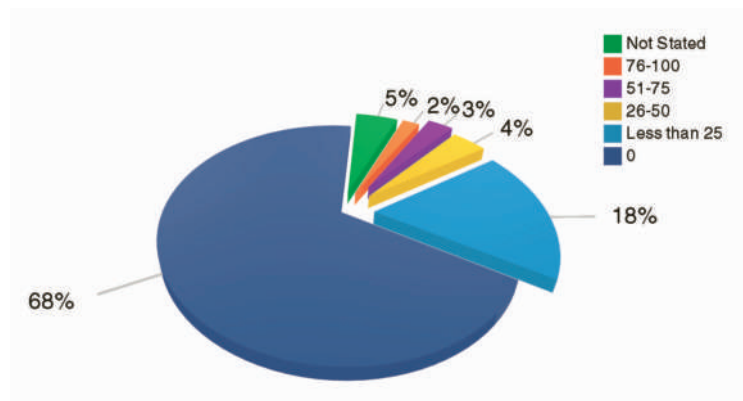
Reasons for owning a website

The most popular reasons for owning the website are to provide an online company profile, to enhance the image of the company and to improve customer service.



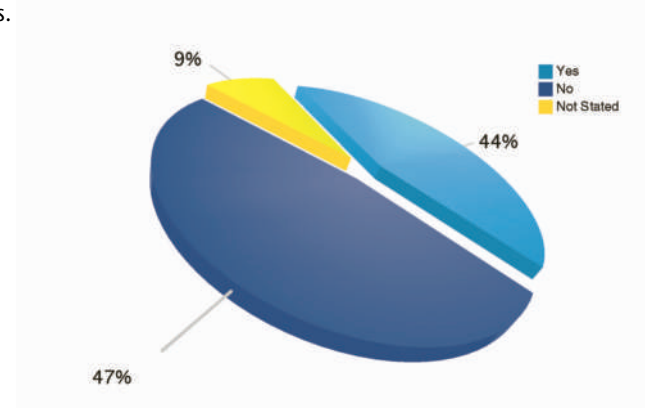
Businesses that do sales over the Internet

24% of the businesses surveyed indicated that they did some sales over the Internet. Of these the highest number of transactions is in the retail or B2C segment. The largest value of transactions is also in the B2C segment except for the large businesses that do their largest value with other businesses online in the B2B segment. There were no indications as to the value of sales in dollar amount that was done online.



Businesses that do value chain activities over the Internet

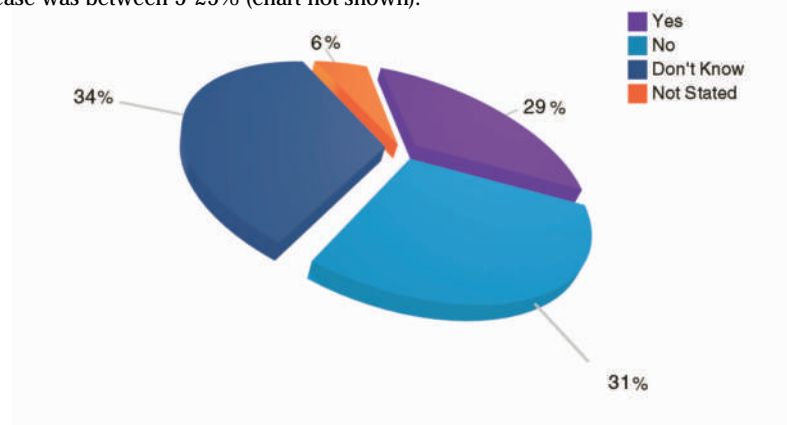
Businesses also use the Internet to assist them with undertaking activities in their value chain. 98% of the businesses surveyed use the Internet for sales, 84% of them use it for communicating with their customers. For businesses that do e-procurement, 98% of them use it for communicating with their suppliers and 84% of them use it for sourcing suppliers.



Opportunities for E-Commerce Development

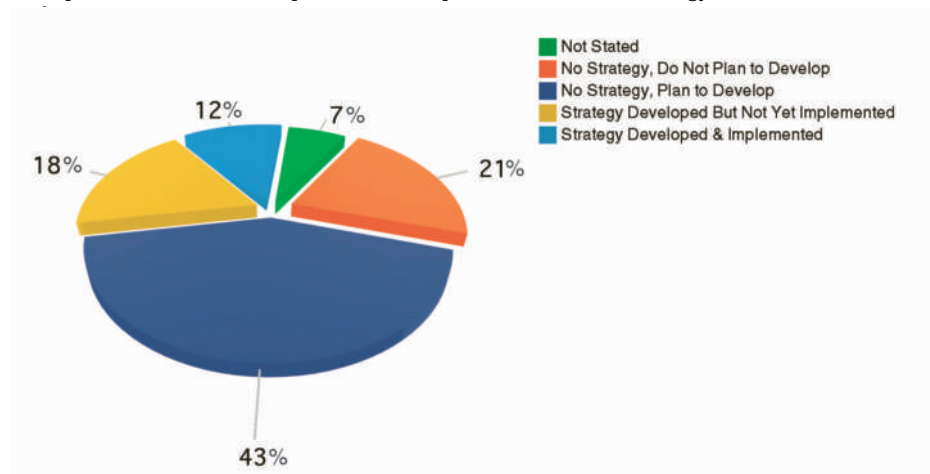
Revenue increase due to Web presence

The survey has highlighted several opportunities for the local growth of e-commerce development. 29% of the businesses surveyed, indicated that they saw an increase in revenue due to their web presence. Among small businesses, 42% responded that their revenue increased. 48% of the businesses that reported an increase responded that this increase was between 5-25% (chart not shown).



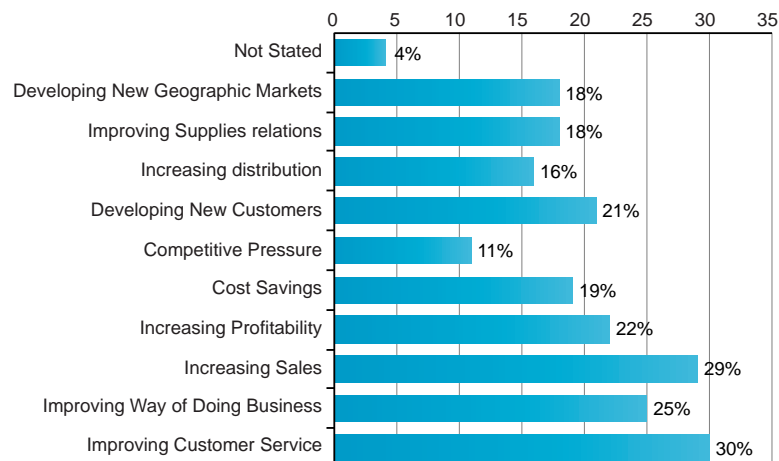
Level of e-commerce strategy development

Businesses also seem to understand the importance of e-commerce as a driver for strategic growth. 30% have developed an e-commerce strategy even though some have not yet implemented one. 43% plan to develop an e-commerce strategy within an indefinite



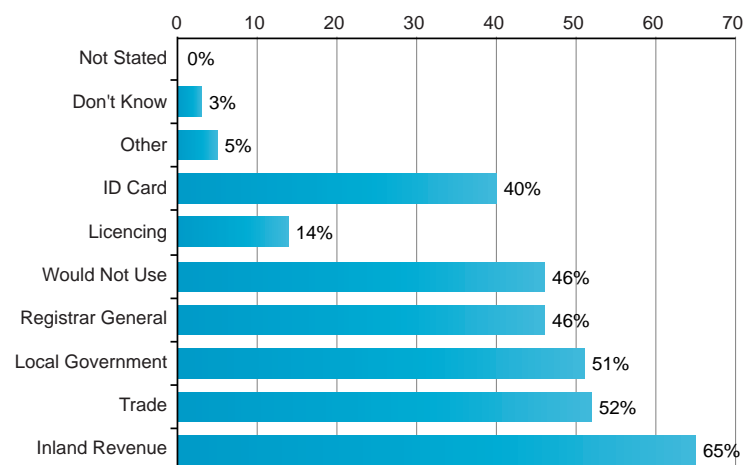
Internal factors driving the development of e-commerce

Of the internal factors that drive the development of an e-commerce strategy, the businesses surveyed indicated that are interested in improving customer service and increasing sales.



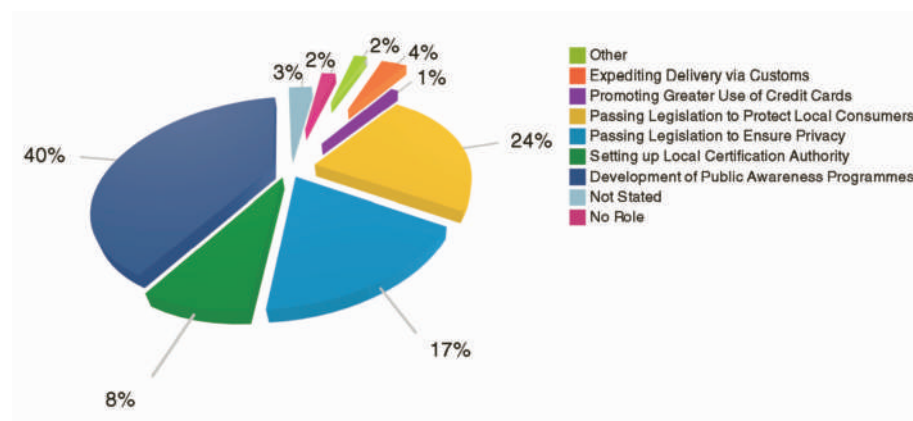
Government services most likely to be used on the Internet

For the government as a supplier of business services online, over 50% of businesses surveyed responded that they would be willing to use the services of e-government, the most popular being that of Inland Revenue, the Ministry of Trade and the Ministry of Local Government.



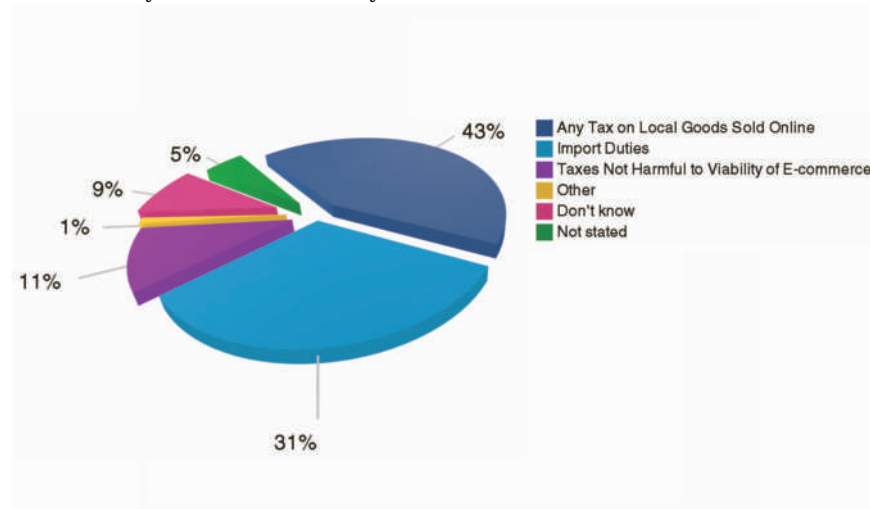
Government's role in promoting the development of e-commerce

In the role of the government in promoting e-commerce development, 40% of businesses surveyed responded that its major role should be to develop public awareness programmes on the uses and benefits of e-commerce.



Taxes that would impact the viability of e-commerce

43% of the businesses also believe that implementing any form of taxes would be harmful to the viability of e-commerce locally.

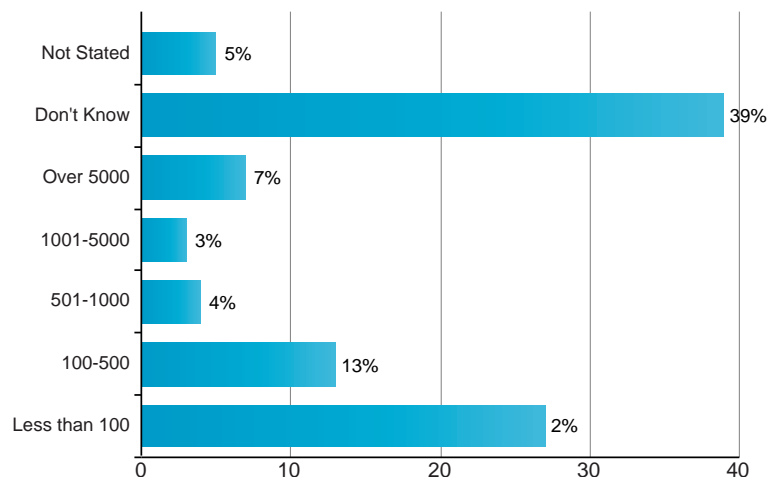


Barriers to growth of E-Commerce

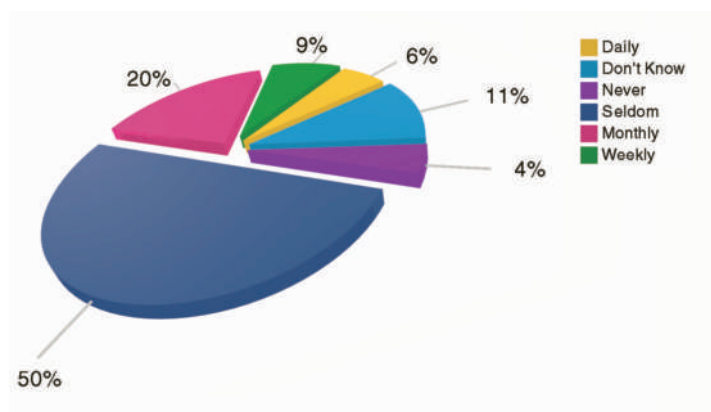
Use of the website as a source of strategic information

There are several barriers to the growth/development of e-commerce that exist in our local business environment. Among the businesses surveyed, there is still not enough awareness of the potential benefits of a web presence as a business tool. 50% of these businesses update their website on an infrequent basis, 39% of them do not know how many visitors view or use their website.

Monthly average of website visitors

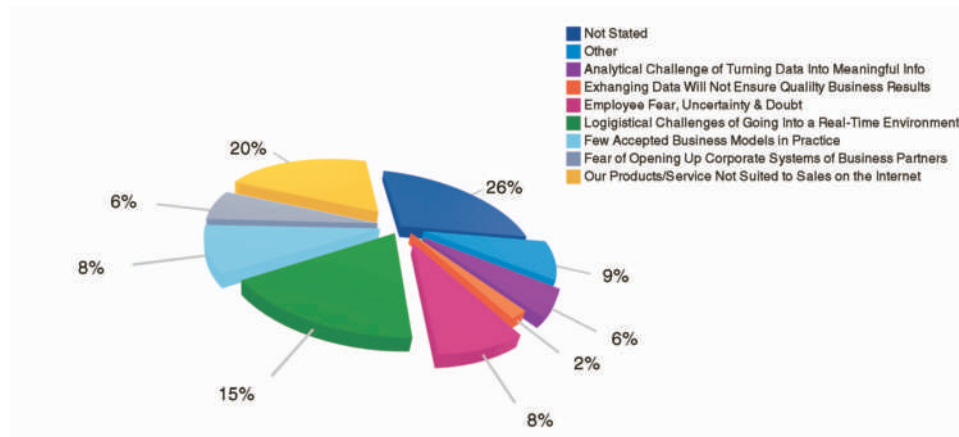


Frequency of website updating



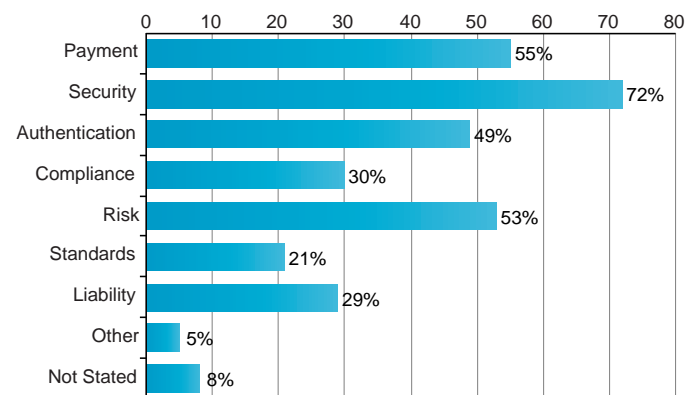
Internal factors affecting the development of e-commerce

Two of the internal factors affecting e-commerce development that the businesses cited were that the existing products/services are not suited to sales on the Internet and there is a lack of understanding among the executive management about e-commerce. 35% of the businesses surveyed responded that the budget allocated for e-commerce is insufficient and 28% said that there are enough customers on the Internet (chart not shown).



Issues affecting trust and confidence in E-Commerce in Trinidad and Tobago

In Trinidad and Tobago, some of the more important issues affecting e-commerce development are in the areas of trust and confidence. 72% of the businesses surveyed indicated that they did not believe that security systems are robust enough to withstand an attack. Over 50% of them responded that payment systems are not readily available and that e-commerce is simply too much of a risky undertaking.



Technology issues that impact E-Commerce development

In the area of infrastructure, 60% of the businesses believed that security is also an issue and 45% believe that there is not enough networking bandwidth to support the local businesses.

