International Telecommunication Union

ITU-D STUDY GROUP 2 RAPPORTEUR FOR QUESTION 17/2

Report on Progress in ITU activity for E-commerce

International Telecommunication Union

THE STUDY GROUPS OF ITU-D

The ITU-D Study Groups were set up in accordance with Resolutions 2 of the World Telecommunication Development Conference (WTDC) held in Buenos Aires, Argentina, in 1994). For the period 2002-2006, Study Group 1 is entrusted with the study of seven Questions in the field of telecommunication development strategies and policies. Study Group 2 is entrusted with the study of eleven Questions in the field of development and management of telecommunication services and networks. For this period, in order to respond as quickly as possible to the concerns of developing countries, instead of being approved during the WTDC, the output of each Question is published as and when it is ready.

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Question 17/2
Progress on ITU activities
for e-commerce

ITU-D Study Group 2
3rd Study Period
(2002-2006)

International
Telecommunication
Union

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1   INTRODUCTION

The Project Group was formed during the Study Group 2 meeting in Geneva, September 2002 to address Question 17/2: progress in ITU activity for E-commerce (the definition of the Question can be found on the web at the following address:

http://web/ITU-D/study_groups/SGP_2002-2006/SG2/StudyQuestions/SG2Quest.html),

according to the terms of reference mandated by the World Telecommunication Development Conference held in Istanbul. The Project Group was formed for one-year period chaired by Mr. A. Sherbini from Egypt and vice-chaired by Mr. D. Turahi from Uganda, Ms. Fentiani from Indonesia and Mariagela Villaman from the Dominican Republic. Document 2/REP/003(Rev.1) includes the structure of the work plan and the progress of the Project Group.

A questionnaire was designed to collect information and feedback and was circulated to all Member States and Sector Members. The Question, which is presented in Annex 7, was divided into four categories as follows:

1)   Questions that address the needs of the countries and their plans in the near future

2)   Questions that address the problems facing the countries in implementing e-services

3)   Questions that address the role of ITU in helping countries to achieve their needs

4)   Questions that address the gender issues

The responses to the questionnaire were analysed and the detailed analysis of which is presented in Annex 4. A progress report from BDT on their activities in e-commerce was received and is included in Annex 1, along with a summary of ITU General Secretariat activities and the related questions in ITU-T. The reports were studied and analyzed and the analysis can be found on page 14 of this report.

Based on all input documents and their analysis, the Project Group reached a set of recommendations that are believed to help both ITU and the Member States to more efficiently approach their work in the e-services domain.

The Project Group is also proposing a recommendation to enlarge the scope of Question 17/2 and extend the duration of the work of the Project Group.

According to the plan agreed upon since our last meeting held in Geneva on 27 and 28 February 2003, here is the compilation and the analysis of the replies to the questionnaire on ITU activities for e-commerce, accompanied by a summary of the replies.

The philosophy of setting the questionnaire

This is an analysis of the countries' feedback on the rule of the ITU in supporting e-services, in addition to what they are looking forward to achieving in this field. It also discusses the problems, which can obstacle E-services. There is also a survey on women's participation in the field of e-services together with a note on the societies' concern about setting up specialized programs for e-services.

Having all in mind, the questionnaire is divided into four categories as follows:

1)   Points 1, 2 and 3: discuss what countries have already achieved in the field of E-services together with their plan in the near future

2)   Points 4, 6, 7, 8 and 9: cover the different aspects of the suggested activity and the priorities, that can be detected from a careful study of the obstacles affecting the various E-services.

3)   Points 5, 10, 11 and 12: handle ITU activities and the feedback of the countries on the role of ITU in addition to their expectations from us.

4)   Points 13, 14 and 15): present evaluation of the role of women.

We received a number of 60 replies from 56 countries, 45 of them are in English, while 9 are in French and 6 in Spanish. Here is a list of the names of the countries that sent their responses in the three languages:

English: 7 African countries (Egypt, Eritrea, Guyana, Namibia, South Africa, Sudan, Zimbabwe); 16 countries in Europe and CIS (Albania, Czech Republic, Finland, Greece, Grenada, Hungary, Lithuania, Moldova, Norway, Poland, Portugal, Slovakia, Spain, Swaziland, Turkey and Ukraine); three countries in the American region (Bolivia, Canada and Seychelles) and 16 countries in Asia and Pacific (Armenia, Bahrain, Belarus, Japan, Jordan, Kuwait, Lebanon, Malawi, Myanmar, Oman, Qatar, Saudi Arabia, Syria, Tahiti, Thailand and United Arab Emirates,).

French: 7 African countries (Algeria, Benin, Burkina Faso, Cameroon, Djibouti, Morocco and Niger) and one country in Europe and CIS (Belgium).

Spanish: 6 countries in the American region (Colombia, Costa Rica, El Salvador, Mexico, Nicaragua and Peru).

Here is an analysis of feedback on the questionnaires according to the classification given earlier.

2   COMPILATION AND ANALYSIS OF THE REPLIES TO THE QUESTIONNAIRE ON ITU ACTIVITIES FOR E-COMMERCE

2.1   Analysis of the activities of the countries on E-services (Questionnaire 1, 2 and 3)

Figure 1 – Question 1: Which E-Services have already been introduced in your country?

E-Government − E-Business − E-Education − Others
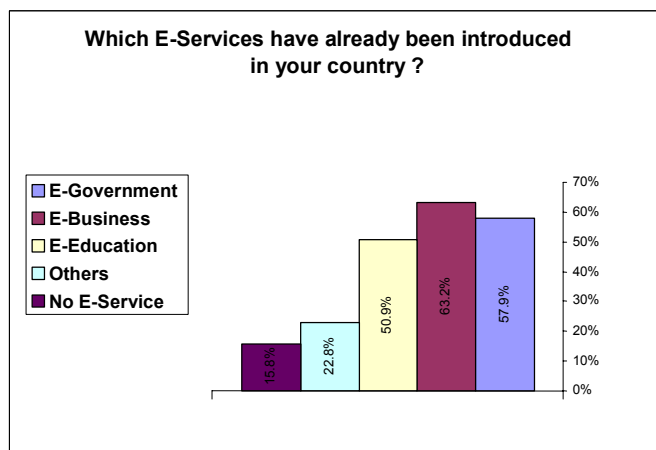
Different countries vary in their application of E-services. We found that 63% of the countries have already started the E-services. We also found that the services such as E government and E-education are coming closer to this percentage (Note: this slight difference in results reached does not necessarily mean that one service superpasses the other. This is due to the few number of he countries surveyed in the questionnaire; they are about 60 countries and hence, the 2% difference means just one country) which reflects an equal interest on behalf of the countries involved.

There is also 22% of the countries which have initiated other services such as E-banking. Almost 1/6 of the countries have not yet made use of any of the E-services.

**Figure 2 – Question 2: Which E-Services are more important
to be implemented today although the process is not started?**

E-Government – E-Business – E-Education – Others

Which E-Services are more important to be implemented today although the process is not started ?
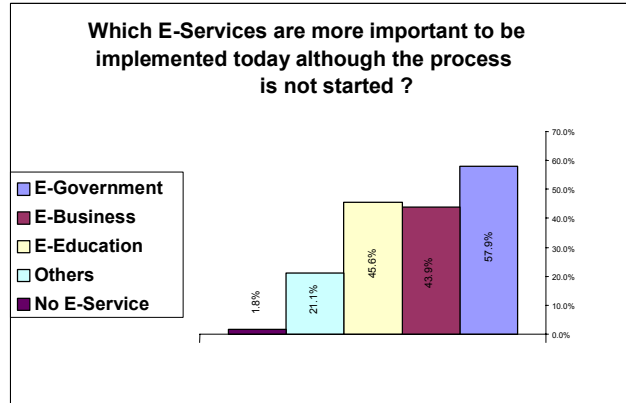
At this stage, we can say that the countries have been introduced to E-services with their three main branches equally and hence, they are convinced of the importance of catching up with the New World of electronic services, as shown in Figure 2. This figure illustrates the similar attitude of the countries towards the importance of E-services and it three fundamental services, though they have not yet been virtually used in those countries.

We find 57% with high interest in E-government followed by 45% of equal concern about both of E-Education and E-Business. 21% of the countries are interested in other services and 2% (which reflects just one country) is not interested at all in any of the E-services.

**Figure 3 – Question 3: Which E-Services are planned to be introduced
in your country within the next five years?**

E-Government – E-Business – E-Education – Others

Which E-Services are planned to be introduced in your country within the next five years ?
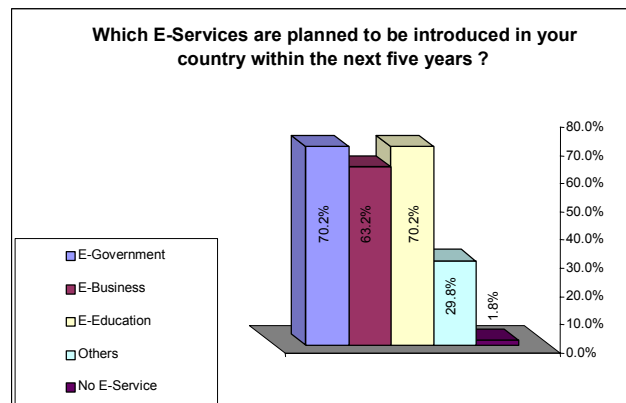
Figure 3 illustrates the countries, prospective plans to complement the services they lack in the coming five years. This figure shows an equal 70% for each of the services independently and 29% of the countries have other plans.

Figure 3b

Past & future (next five years) of Country usage E-Service
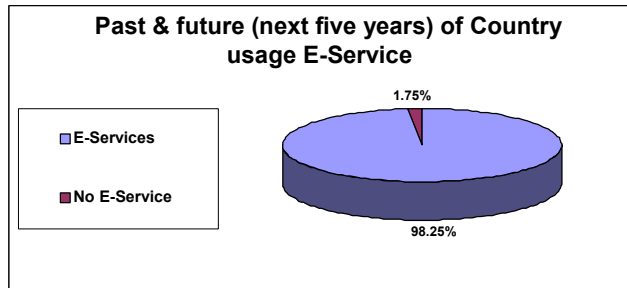
Figure 3b gives an optimistic view of the situation in 5 years to come. In spite of the fact that 1/6 of the countries have not been introduced to any of the services yet, on the other hand stands 98% of the countries have already made use of the services.

The remaining 2% depicting the exceptional country; that is Eritrea, which is not expected to utilize E-services soon.

2.2 Analysis of he problems encountered in implementing E-services (Questionnaire 4, 6, 7, 8 and 9)

Figure 4 – Question 4: The problems that can interface with the introduction of E-Services in your country ?

Infrastructure – Regulatory aspects – Awareness Technical expertise – Others

The problems that can interface with the introduction of E-Services in your country ?
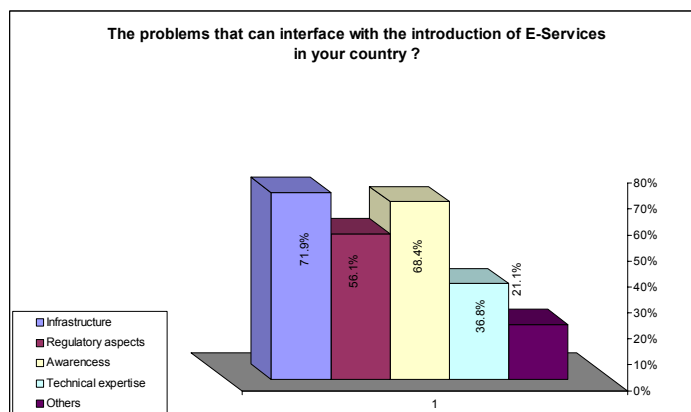
Question 4 gives general idea about the obstacles faced by E-services; that is to say, 71% of the countries have a problem with infrastructure followed by 68% that suffer a problem related to awareness. There is also a percentage of 56% that need regulatory aspects. 36% of the countries have pointed out technical expertise problems. The least percentage of 20% reflects other types of problems.

**Figure 5 – Question 6: The problems that interfere with implementing
E-government in your country?**

**Lack of awareness – Government bureaucracy – Availability of
documents in digital form – Computer illiteracy – Others**
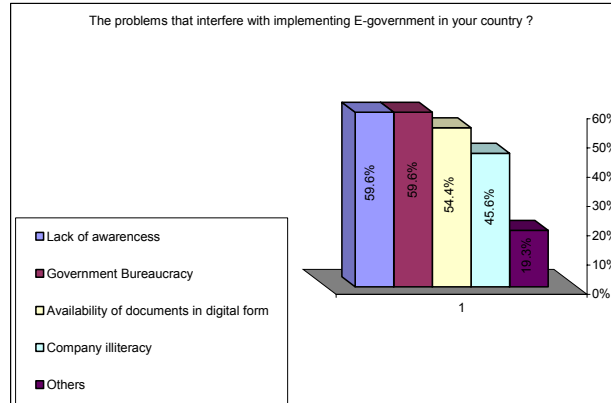
From the point of view of the three main E-services:

E-government

E-government faces complicated problems as shown in (Figure 5) the most important of which are caused by governments such as government Bureaucracy and Lack of awareness from which about 59% suffer. As for Availability of documents in digital format, it constitutes another problem highlighted by 54% of the countries. There is also a percentage of 45% that suffer from company illiteracy. 20% of the countries face totally different types of problems.

**Figure 6 – Question 7: The problems encountered in implementing
E-transaction/banking in your country**

Information and network security – Infrastructure – Banking system – Others
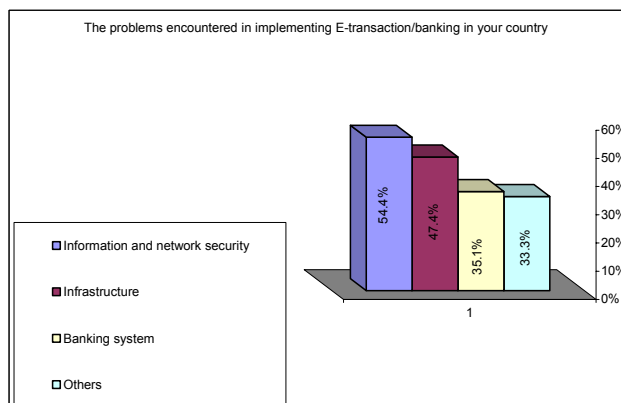
E-banking

The problems of E banking are primarily economical ones that can be summarized as follows; 54% problems of information and network security, 47% of the countries have problems with infrastructure, 35% have problems with banking system, while 33% have other problems as shown in Figure 6.

**Figure 7 – Question 8: The problems encountered in implementing
E-education in your country**

**Human resources development – Computer cost and availability
Infrastructure – Curriculum in E-based format – Others**

The problems encountered in implementing E-education in your country

- Human resources development
- Computer cost and availability
- Infrastructure
- Currriculum in E- based format
- Others

61.4% 71.9% 49.1% 57.9% 21.1%
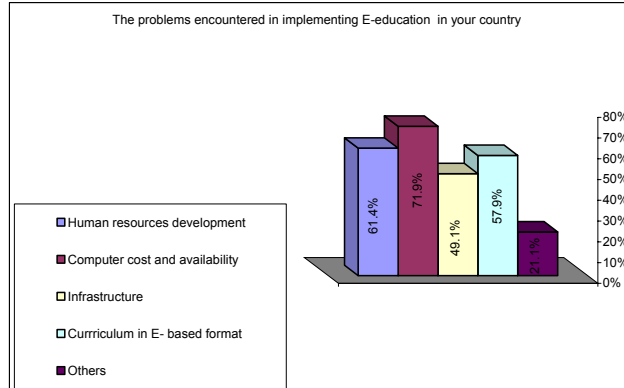
E-Education

Concerning the problems of E-Education, it has fundamental elements as shown in Figure 7. Of these elements, Computer cost and availability as reported by 71%. In addition, there is human resources development problem that appears in 61%. This is while, 57% of the countries that reported the problem of curriculum in E-based format. 49% have chosen the problem of infrastructure. This is beside 20% of the countries, which are facing other various problems.

Figure 8 – Question 9: The problems encountered in implementing E-business in your country

**Awareness at executive levels – Infrastructure – Readiness of companies and
business organization – Legal framework – Others**

The problems encountered in implementing E-business in your country

- Awareness at executive levels
- Infrastructure
- Readiness of companies and business organization
- Legal framework
- Others

38.6% 43.9% 71.9% 54.4% 15.8%
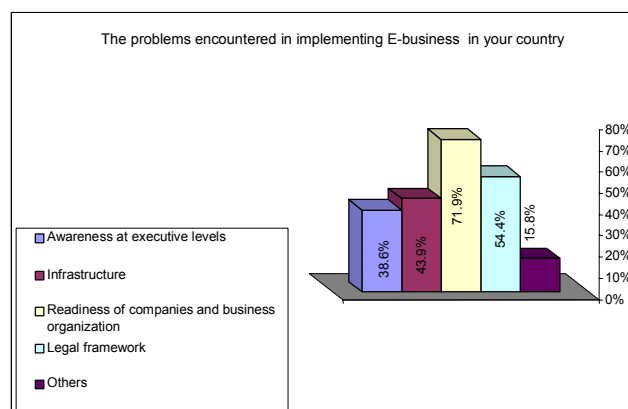
E-Business

An essential problem agreed upon on behalf of 71.9% of the countries is the Readiness of companies and business or organizations that is closely related to legal framework, because 54% of the countries need to modify their regulations.

Another problem that follows the two aforementioned ones is the problem of Infrastructure that recorded a percentage of 43, while only 38% of the countries encounters the problem of Awareness at executive levels. 15% of the countries have other problems.

2.3   ITU-D activities in the countries (Questionnaire 5, 10, 11 and 12)

Figure 9 – Question 10: Are there any ITU programs concerned with any of the following E-activities in your country?

E-Government – E-Business – E-Education – None

Are there any ITU programms concerned with any of the following E-activities in your country
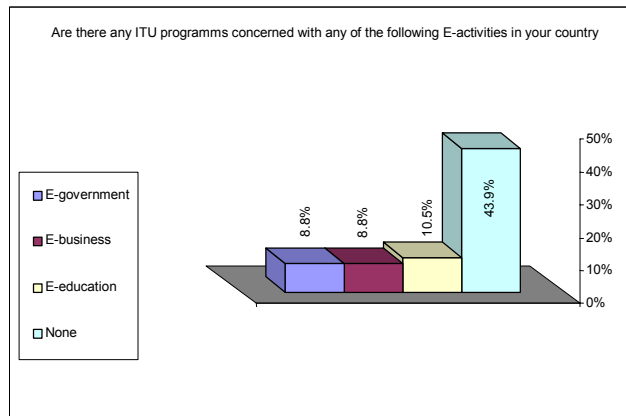
So far, it can be said that the role that ITU is doing is still limited. This is shown in Figure 9 that illustrates that no special ITU programs were introduced to 43.9% of the countries.

Furthermore, ITU activity that equals 10% of the three main E-services is regarded as a very little percentage when compared to what it must do or even when compared to our expectations.

Figure 9a
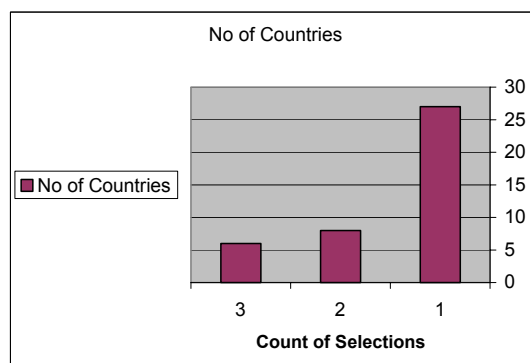
No of Countries

Figure 9a illustrates that 6 countries have chosen the three E-services in Question 10 while only 7 countries have chosen 2 E-services and 27 countries have selected one service.

Figure 9b

ITU programs – E-services have been
introduced – E-government

8.77%

40.35%

50.88%

☐ No Service No ITU Prog.

■ No ITU Prog. with Service

☐ Service with ITU Prog.
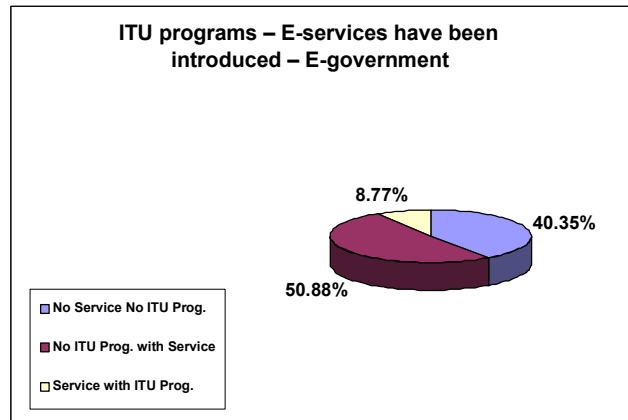
The first question (Figure 1) together with the previous one give a hint of the role of ITU in E-services.

Figure 9b shows that 50% of the countries have already benefited from E-Government with no participation on our behalf. In other words; our real role in the introducing these services does not exceed 9% of the countries. This is in addition to the fact that 40% of he countries have not yet made use of this service.

Figure 9c

ITU programs – E-services have been
introduced – E-education

10.53%

45.61%

43.86%

☐ No Service No ITU Prog.

■ No ITU Prog. with Service

☐ Service with ITU Prog.
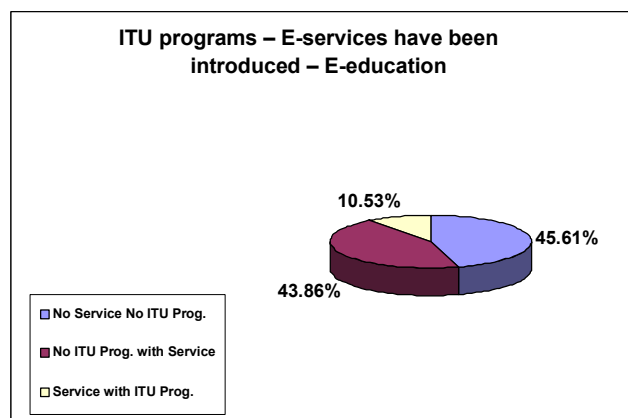
Similarly, Figure 9c re-emphasizes that 43% have introduced the service of E-education without our help and our role appears in just 10% of the countries. This is while 45% have not yet used this service.

Figure 9e
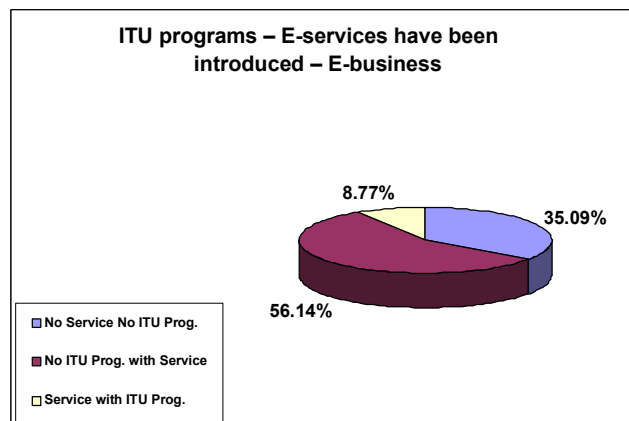
Figure 9e shows that 56% have initiated E-business without our help that does not exceed 9%. There is also 35% that have not initiated this service yet.

NOTE – In five years, the 3 E-services should be available.

2.4   The countries' expectation of ITU 1, 2 and 3

**Figure 10 – Question 5: In your opinion, how can ITU help
your country solve those problems?**

**Pilot Programs – Infrastructure – Financial support – Technical expertise
Human resources development – Others**
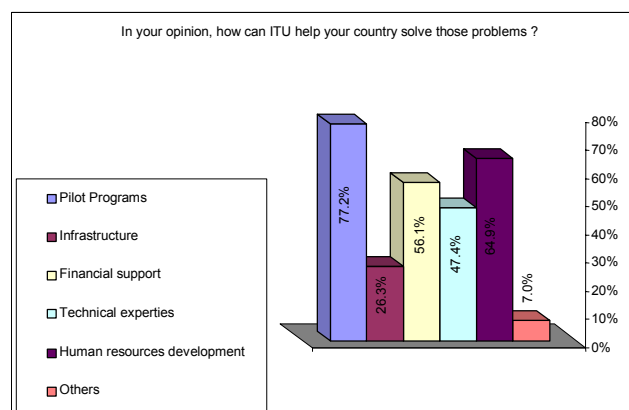
Figure 10 illustrates that 77% of the countries are looking forward to pilot programs. It also shows that nearly 64% need a Human resources development while 26% of the countries need a development in infrastructure. This is related to the need of 56% of the countries to financial support. 47% of the countries have chosen Technical expertise and 7% have other suggestions.

**Figure 11 – Question 11: Are there any ITU pilot projects for providing guidance
for E-services deployment in your country through:**

**Policies – Strategies – Legislative environment – Human resources development
Planning, design and development – Feasibility studies – Approach to integrate
E-services into available ICT infrastructure – Others**
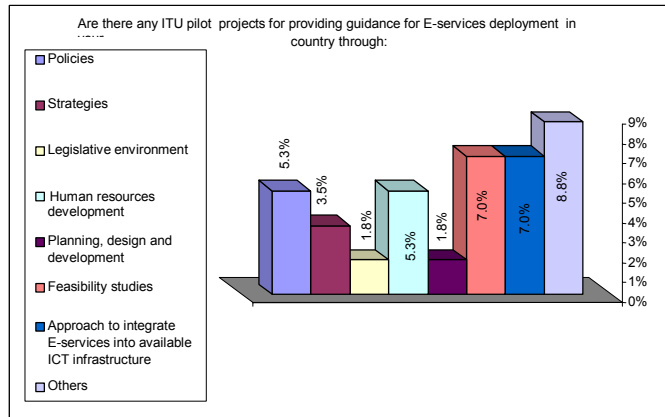
Feasibility studies and approach to integrate E-services into available ICT infrastructure, these two projects are the most common of the ITU activities. They are equally chosen by countries with a percentage of 7. Following this, Human resources and policies development with one percentage; that is 5.3% and 8.8% of the countries have other projects. Strategies are chosen by 5.3% of the countries. The other activities have a record of 1.8% (Figure 11).

**Figure 12 – Question 12: Are there any difficulties in your country in establishing
partnership in E-services application between public and private sectors?**

Yes   No
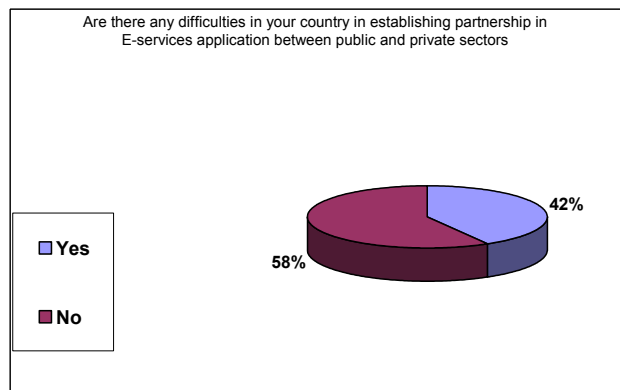
As for the problems related to the cooperation between the public and private sector, only about 42% of the countries have problems of this kind.

2.5   Gender issues

Figure 13 – Question 13: Barrier for women to the full use of E-services:

Lack of awareness – Illiteracy – Computer illiteracy – Language barrier
Financial – Social barrier – Others
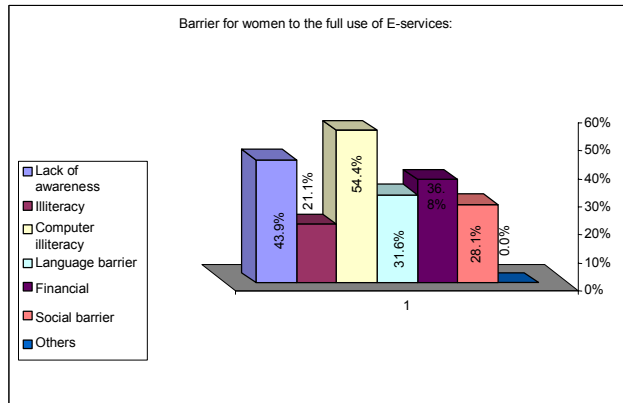
As for the obstacles facing women in the field of E-services, the most important problem is computer illiteracy, which is recorded by 54% of the countries. Following this, there is a lack of awareness pointed out by 43%. The following three problems finance, language barrier and social barrier have recorded a nearly equal percentage of 30. Finally, there are 21% of the countries suffering from other problems.

Figure 14 – Question 14: Are there any E-education programs for women in your country?

Working Women – Housewives – Youth – None
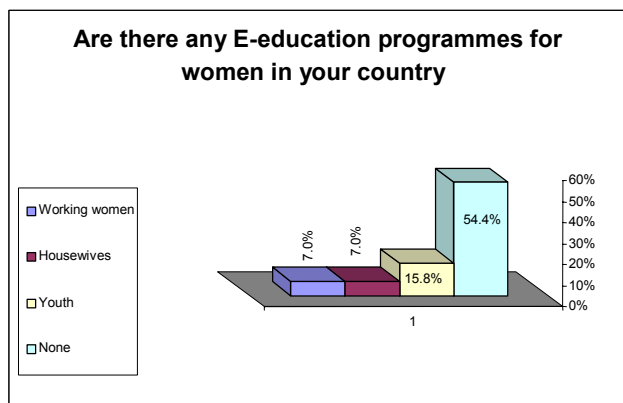
We find that 54% of the countries have no E-education programs specialized for women while 16% have programs for youth and only 7% of the countries have programs for working women and housewives.

Figure 15 – Question 15: Are there any ITU programs in your country to overcome barriers interfering with women's participation in the E-world?

Yes   No
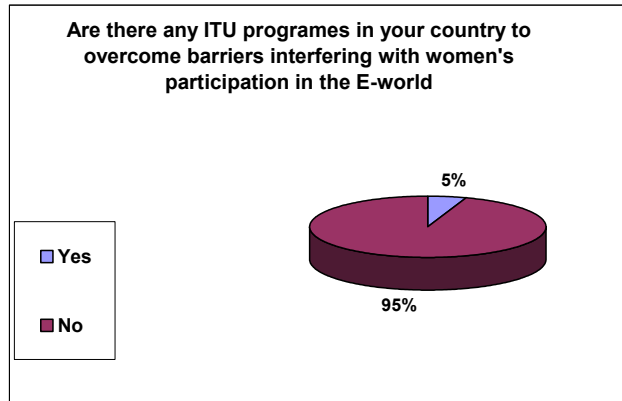
Concerning ITU participation in overcoming the problems facing women in the E-world, it has a percentage of 5. (Percentage to be proud of!)

2.6 Summary

The summary of the replies to the questionnaires can be found in the following Table.

| Question	A	B	C	D	E	F	G	H
Question 1: **Which E-Services have already been introduced in your country?** E-Government – E-Business – E-Education – Others	33	36	29	13	9			
Question 2: **Which E-Services are more important to be implemented today although the process is not started?** E-Government – E-Business – E-Education – Others	33	25	26	12	1			
Question 3: **Which E-Services are planned to be introduced in your country within the next five years?** E-Government – E-Business – E-Education – Others	40	36	40	17	1			
Question 4: **The problems that can interface with the introduction of E-Services in your country ?** Infrastructure – Regulatory aspects – Awareness	41	32	39	21	12			
Question 5: **In your opinion, how can the ITU help your country solve those problems?** Pilot Programs – Infrastructure – Financial support – Technical expertise – Human resources development – Others	44	15	32	27	37	4		
Question 6: **The problems that interfere with implementing E-government in your country?** Lack of awareness – Government bureaucracy – Availability of documents in digital form Computer illiteracy – Others	34	34	31	26	11			
Question 7: **The problems encountered in implementing E-transaction/banking in your country** Information and network security – Infrastructure – Banking system – Others	31	27	20	19				
Question 8: **The problems encountered in implementing E-education in your country** Human resources development – Computer cost and availability – Infrastructure – Curriculum in E-based format – Others	35	41	28	33	12			
Question 9: **The problems encountered in implementing E-business in your country** Awareness at executive levels – Infrastructure – Readiness of companies and business organization – Legal framework – Others	22	25	41	31	9			
Question 10: **Are there any ITU programs concerned with any of the following E-activities in your country?** E-Government – E-Business – E-Education – Others	5	5	6	25				
Question 11: **Are there any ITU pilot projects for providing guidance for E-services deployment in your country through:** Policies – Strategies – Legislative environment – Human resources development – Planning, design and development – Feasibility studies – Approach to integrate E-services into available ICT infrastructure – Others	3	2	1	3	1	4	4	5
Question 12: **Are there any difficulties in your country in establishing partnership in E-services application between public and private sectors?** Yes No	18	39						
Question 13: **Barrier for women to the full use of E-services:** Lack of awareness – Illiteracy – Computer illiteracy – Language barrier – Financial – Social barrier – Others	25	12	31	18	21	16		
Question 14: **Are there any E-education programs for women in your country?** Working women – Housewives – Youth – None	4	4	9	31				
Question 15: **Are there any ITU programs in your country to overcome barriers interfering with women's participation in the E-world?** Yes No	3	54						

3   ANALYSIS OF THE REPORT ON ITU/BDT E-COMMERCE-ACTIVITIES

Here is the analysis of the report on ITU/BDT e-commerce- activities for the period 2002-2003.

In this analysis we used the information discussed in the report. Though it may not illustrate the whole activities, we did not go behind the data provided in this report.

The report sub-divided the ITU/BDT e-commerce- activities into the following four categories:

a)   E-applications infrastructure

b)   Capacity building

c)   Policies and Strategies

d)   Partnership

The answers to the three questions; what, how and where portray an important part of the analysis of each of the previous 4 categories.

3.1   E-applications infrastructure: Projects on e-services/applications

The objectives of these projects were to:

–   insure secure communication, including digital signatures;

–   establish e-commerce infrastructure.

The ITU/BDT provided assistance in the feasibility, technology strategies, project coordination, technical assistance in the deployment of infrastructure, implementing a secure IT infrastructure capable of delivering various types of services, but with focus on the developing countries and on e-commerce.

It is noteworthy to mention that some of the projects are no longer sustainable (Vietnam for example).

How:

The activities of the ITU in these countries were achieved through:

–   The assistance of the implementations and the deployment of infrastructure of some projects.

–   Providing guidance, technical strategies, recommendations, etc.

–   Training.

–   Financial assistance.

There are several sources of finance. ITU/BDT Finances the projects of four, the countries itself has a share in financing most of the projects. There are also other international organizations or countries that have already participated in financing two projects. Among these organizations are the Swiss Federal Office for Communications, OFCOM and Japan.

Where:

The report discussed both the ongoing and completed Projects and Projects approved for the year 2003. The projects of eight countries became operational during 2002, and others were still ongoing.

The report also discussed the activities that have already been started in the following countries: 5 African countries (Burkina Faso, Cameroon, Cape verde, Côte d'Ivoire and Senegal); two countries in Europe and CIS (Bulgaria and Turkey); two countries in the American region (Ecuador and Peru)); and two countries in Asia and Pacific (Cambodia and Vietnam).

ITU/BDT has approved 2003 projects in the following countries: Azerbaijan, Cameroon, Caribbean, Dem. Rep. of the Congo, Georgia, Kyrgyzstan, Mauritania, Mongolia, Paraguay, Seychelles and Tunisia.

3.2   Capacity building: Training on e-services/applications technologies

It is mentioned that all project implementations have a capacity building component.

How:

Training workshops, training programs have been organized to build local capacity in e-commerce, security, trust technologies and on the legal issues related to the use of these technologies.

Where:

The report is not specifying neither the complete list of benefited countries nor the programs that have been already accomplished or those under project.

The following few examples were discussed in the report.

More than 27 courses and seminars on lCT have been held in Venezuela!

Some of them have been organized for the American region, such as Chile; for the African region, specifically in Senegal, and for Asia and Pacific region, particularly in Pakistan.

We do not know for sure whether the programs that are being executed through the centers of excellence were included in that report or not.

3.3   Policies and Strategies: Assistance in e-policies, e-strategies and e-legislation

The aim of this activity is to provide policy guidance (national and regional policies and strategies for the introduction of new technologies).

How:

The activities were done through training, direct assistance, seminars, workshops and conferences.

Where:

ITU activities in this area have been introduced in 10 African countries (Burkina Faso, Cameroon, Cape Verde, Mali, Mauritius, Morocco, Nigeria, Senegal and South Africa); three countries in Asia and Pacific (Islamic Republic of Iran, Lao PDR and Malaysia); 6 countries in the Arab countries (Algeria, Egypt, Kingdom of Saudi Arabia, the Sultanate of Oman, Tunisia and the United Arab Emirates); 6 countries in Europe and CIS (Belgium, Romania, Russian Federation, Switzerland and United Kingdom) and 6 countries in the Americas region (Andean Community, Brazil, St. Lucia, United States and Venezuela). Figure A shows ITU's activities for each continent divided by the total number of countries of the continent (or region).

Concerning the future plans, this report showed that ITU/BDT is going to assist the Islamic Rep. of Iran to implement e-commerce. As for the seminars, two of them will be held: the first in Syria and the second in the United Arab Emirates. The Registration Authorities Workshop will be held in Switzerland and the Tele-medicine Symposium will be held in Tunisia.

Holding seminars is the most common ITU activity. We need more effective participation, so that the countries would be able to develop their own strategies.

Figure A – ITU activities for each continent (or region)
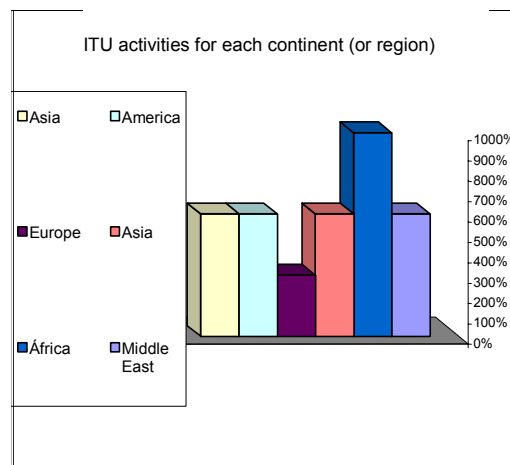
3.4   Partnership: Activities to facilitate the establishment of mutually beneficial partnerships

From the experience of ITU/BDT especially in the domain of e-commerce, working with partners is essential to meet the objectives of the ITU. This is because, there are many components and skills that are necessary for the successful implementation of e-commerce services that need the collaboration of other partners. To this effect, partnership agreements have been established with FUNDANDINA of Venezuela, WISeKey, Goodwin Proctor LLP, World e-Trust MoUI and the World Trade Center Geneva.

The report discussed the advantages of the mentioned partnership, such as the establishment center for IT training and the establishment of e-commerce solutions.

The concept of partnership is essential; we believe that there is a bad need for more of these partnerships in addition to developing a better and more effective use of it.

3.5   Gender issues

Three events dealt with gender issues. The first was the conference held in USA with the cooperation of UNDP and UNIFEM. It discussed the strategies for empowering African women for the use of ICT.

The second project was providing technical and financial assistance to 3 500 ASAFE members. The third project is planned to take place next year in Mauritania to establish a Multi-purpose Community Tele-centre for women.

3.6   Conclusion

The present report highlighted that the activities are mainly based on the demands of the countries. The conclusion of the report explained the need to address business models for sustainability, which is a need, that brings about benefits to the population of developing countries (it was pointed out that there are some projects that have been stopped in some countries such as Vietnam). The report emphasized also the importance of the sustainability of the services in the design phase.

It hammered upon the fact that it is not sufficient to focus on telecommunication subjects while neglecting other factors affecting the success of the projects such as banking, logistics, etc.

There is an agreement on what the conclusion has come up with at the end of the report.

4   RECOMMENDATIONS

Based on the analysis of the replies to the questionnaire and analysis of the BDT report on E-Commerce and the relevant activities within ITU related to e-service, we present in this section a summary of the recommendations to both ITU and member counties, which we believe would advance the role the ITU plays in the very important domain of e-services and applications.

4.1   Recommendations for ITU

•   ITU activities should not be focused on just awareness activities, such as seminars and conferences but should also be extended to more development oriented activities.

•   A criteria has to be developed to evaluate qualitatively and quantitatively the efficiency of the ITU projects which has been implemented. All projects have to be measured against this criteria.

•   The ratio between the ITU projects and activities that have already been implemented and those requested by the member countries should be included in the ITU progress report.

•   ITU is encouraged to develop models for successful e-services and e-projects implementation, which can be adopted by the different countries.

•   ITU needs to increase the budget allocated to the area of e-commerce in order to meet the expected increasing needs of different countries. 98% of the countries that responded to our questionnaire are about to join the world of E-commerce (i.e., e-government, e-business and e-education) within the coming five years.

•   ITU have to play a more active role as a link between the funding associations and both the developing and the least developed countries in order to help them to finance their e-service projects.

•   ITU has a role in encouraging the private sector in the developing and the least developed countries to enter the e-services world.

•   ITU should design programs and encourage the countries to improve the role of women in e-services.

4.2   Recommendations for countries

•   Countries should be proactive in defining their needs in the domain of E-Services to ITU, so that the ITU can respond more promptly to those needs.

•   Countries should be more cooperative with each other in terms of exchanging experiences, stories of success, and ways to overcome problems, especially among the countries that share similar circumstances regionally and geographically.

•   Developed countries are encouraged to provide developing and least developed countries with the technical know how, financial support and management skills needed to design and implement E-services projects.

•   Governments of the developing countries should develop professional human resources in telecommunication and information technology, as well as in management that can design, implement, deploy, maintain and manage E-services projects.

- Governments need to create the proper legislative and regulatory environment that is highly needed to facilitate the implementation of the E-services.

- The private sector, especially in the developing countries, should play a more active role in implementing E-services projects.

- There is a need to upgrade the telecommunication infrastructure in developing counties, which is needed to support sustainable e-services in terms of bandwidth, security and reliability.

- Countries are encouraged (both governments and private sector) to develop content in their own languages, which is more related to their culture.

- Countries should provide equal opportunities for women as active partners in the development of e-services and also as beneficiaries of e-services.

4.3   Recommendations to change the scope of Question 17/2

Based on the responses received form the countries that expressed interest and concern about E-services, it is strongly recommended to enlarge the scope of the Question 17/2 to be "progress of ITU activities for E-services and applications", not just E-commerce. It is also advisable to prolong the duration of the Project Group to the full duration of the study final. In this section a proposal for the revised Question 17/2 is presented.

Proposal for a revised Question 17/2

During its meeting from 27 to 28 February 2003, the Project Group on Question 17/2 agreed to submit its report on Question 17/2 to ITU-D Study Group 2 meeting in September. The meeting also agreed, although, the termination of the study on e-commerce, to submit to the study group a proposal for a revised Question 17-1/2 which will deal, not only with e-commerce but also, with all e-application, excluding e-health that is studied under Question 14-1/2.

According to Resolution 4 (Rev. Istanbul, 2002) after adoption by Study Group 2, the text of the revised Question 17/2 shall be sent to the Director of the BDT, who after consultation with TDAG shall inform Member States and Sector Members of the revised Question in an Administrative Circular. If Study Group 2 agreed on the revision of the Question, the adopted text of the revised Question 17/2, will be submitted to TDAG for its meeting of 2004. As this process will be time consuming, the Chairman of the Project Group on Question 17/2 proposed that the Chairman of Study Group 2 request the permission of TDAG to start working with the revised Question until the revised Question 17-1/2 is formally approved.

If Study Group 2 agrees by consensus on the proposal for a revised Question 17-1/2, with the support of at least four Member States, Sector Members or other duly authorized entities and organizations, the text of the revised Question will be sent to the Director of BDT, in order to consult TDAG and inform the Member States, Sector Members or other duly authorized entities of the revised Question in an Administrative Circular.

Reference texts: Document 2/68; Document 2/002 (Resolution 4 [1] (Rev. Istanbul, 2002))

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[1] Can be found at the following Web address:
http://www.itu.int/ITU-D/webdocuments/list_new.asp?meeting=B406021&lang=en&period=2002

ANNEX

Question 17-1/2: Progress on ITU activities
for e-services/applications
(excluding e-health that is dealt with by Question 14-1/2)

1   Statement of the situation

ITU-T as well as ITU-D VAP Programme 2 are undertaking studies regarding e-services/applications, in collaboration and partnership with the private sector and the World Trade Centres. The developing countries are not so well endowed with resources to follow these activities and/or contribute to their success.

The Project Group on study on Question 17/2 (Progress on ITU activities for e-services/applications) as adopted by the WTDC-02 in Istanbul, Turkey, 2002 has terminated its study according to the timing. The Group submitted its report to Study Group 2 meeting in September 2003, with a proposal to extend the Question and its scope. Study Group 2 adopted the proposal and finalised the text of the proposed new question that was submitted to TDAG[2] meeting in January 2004.

2   Question for study

Progress on ITU activities for e-services/applications.

3   Expected output

Annual progress reports containing guidelines and experiences of accelerating e-services/applications in developing countries, with special attention to promotion of women entrepreneurs.

4   Timing

Yearly report. First progress report in the first quarter of 2004.

5   Proposers/sponsors

This Question has been requested by ITU-D Study Group 2.

6   Sources of input

•   Progress on the ITU-T study group Questions with relevance to this issue (authentication, secrecy, etc.) from Study Groups 17.

•   Progress of the BDT initiatives with the private sector and the trade centres on e-services/ applications with the emphasis on participation of developing countries.

•   Progress on any other relevant activity carried out by the ITU General Secretariat or the Telecommunication Development Bureau.

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[2]   TDAG: Telecommunication Development Advisory Group.

7   Target audience

A)   Who specifically will use the output?

	Developed countries	Developing countries	LDCs
Telecom policy-makers	X	X	X
Telecom regulators	X	X	X
Service providers/operators	X	X	X
Manufacturers	–	–	–

B)   Proposed methods for the implementation of the results

Policy makers and regulators will take the yearly output in order to adapt their national policies to foster the application of e-services/applications.

8   Proposed methods of handling the question

a)   How?

By a **focus group** or the equivalent (one year duration, to be renewed, if necessary). This focus group should cover all domains (technical, economic, policy and regulatory issues).

b)   Why?

The Question could not be attached to any study group, and the results should be a progress report.

9   Coordination

–   BDT initiative on e-services/applications

–   Work in progress in ITU-T.

10   Other relevant information

None.

Annex 1

E-Commerce progress report

1   Introduction

To meet the objectives of IsAP Programme 3, six priority areas were identified by WTDC-02. The priorities domains are:

a)   Foster the development of Internet Protocol (IP) networks and services on all types of tele-communication networks.

b)   Integrate the development of IP with the rollout of societal applications to enhance governmental, medical/health, educational, agricultural, business and community services.

c)   Enhance security and build confidence in the use of public networks.

d)   Continue the development of Multi-purpose Community Tele-centers (MCTs) and Multi-Purpose Platforms (MPPs) as mechanisms to provide wider and affordable access to ICTs.

e)   Enhance ICT literacy and increase public awareness on the potentials of ICTs for socio-economic development.

f)   Promote the establishment of a favourable legal environment for e-applications.

The activities presented in this report are grouped under four main categories below that are the deliverables for ITU/BDT e-commerce-related activities for the period 2002-2003. Emphasis has been put on activities that are related to Question 17/2. The four main deliverables are:

a)   E-applications *Infrastructure:* Projects on e-services/applications.

b)   *Capacity Building:* Training on e-services/applications technologies.

c)   *Policies and Strategies:* Assistance in e-policies, e-strategies and e-legislation.

d)   *Partnership:* Activities to facilitate the creation of mutually beneficial partnerships.

The following sections of this report highlight some actions undertaken to meet the four main areas objectives. These activities have been carried out using mostly in-house expertise with priority given to Least Developed Countries whenever it was possible for such activities to be undertaken and based on the demands from these countries. 2002 also marked the beginning of the transition from the VAP to IsAP especially for ITU-D Study Group Questions. Further information about these activities can be obtained from the Website http://www.itu.int/ITU-D/e-strategy.

Several LDCs from all regions have benefited from assistance provided by the ITU/BDT and industry partners in various aspects of e-applications. The BDT has actively participated in various workshops and seminars with particular emphasis on assisting LDCs in setting up their e-commerce endeavours.

2   E-applications infrastructure

2.1   Ongoing and completed Projects

During the year 2002, projects to deliver e-services were undertaken in most of the ITU regions. Most of these projects were aimed at implementing a secure IT infrastructure capable of delivering various types of e-services but with focus on e-commerce. With developing countries represented by trade organizations, chambers of commerce, World Trade Centres and Ministries, projects in eight (8) countries became operational during this period. Many other projects were launched and are still ongoing. For the activities reported, ITU/BDT provided assistance in the feasibility, technology strategies, project coordination and technical assistance in the implementation.

For the first time, these countries benefited from ITU assistance in the deployment of infrastructure aimed at building security and trust (using digital certification, digital signatures).

Bulgaria	The first e-government project undertaken at the request of the Ministry of Transport and Communications (MTC). Launched in October 2002, the objective of this project was to enable highly secure communication including digital signatures and encryption for senior level officials of the Bulgarian Government. Phase one of the project included MTC, Council of Ministers, Communications Regulation Commission and Ministry of Finance. ITU provided guidance, technology strategies and recommendations for enabling technical and policy level interoperability between other e-government initiatives in Bulgaria and ITU/BDT project. This project is now in the final phase and scheduled to be fully operational in March or April 2003. Funding, project coordination and implementation was provided by ITU/BDT with the participation and collaboration of MTC.
Burkina Faso	Project with the *Chambre de Commerce, d'Industrie et d'Artisanat* (CCIA) for the deployment of a Registration Authority (RA) in the country. Funded mostly by ITU/BDT and CCIA, this project became technically operational in December 2002. Even though operational, there are still issues related to business models and services necessary for sustainability that have to be addressed.
Cambodia	Project to provide digital certification and value-added services/applications for the Ministry of Posts and Telecommunications of Cambodia (MPTC), including training. The project became operational in May 2002. Funded by the Swiss Federal Office for Communications (OFCOM), Cambodia became the first LDC to have an operational infrastructure for digital certification and e-applications.
Cameroon	To address Gender issues, ITU provided technical and financial assistance to a 3 500 member *Association pour le Soutien et l'Appui à la Femme Entrepreneur* (ASAFE) based in Douala, Cameroon and representing several countries. This project established a sustainable e-commerce and Internet services. With financial aid from Japan for the physical infrastructure and that of ITU/BDT for the IT infrastructure, and the support of the Government of Cameroon, this project has resulted in many other activities and international recognition. With expertise provided by the ITU, the ASAFE project is one of the first projects in Cameroon where Wireless IP solution has been used to interconnect ASAFE to the national IP backbone. The ASAFE project became operational in 2002.
Cape Verde	Ongoing project to build e-commerce infrastructure in Mindelo at the request of the Ministry of Transport and Habitat and the *Direccão Geral das Comunicações*. Additionally, there are plans for assistance in the introduction of secure system for national and international e-transactions.

Côte d'Ivoire   Ongoing project to establish e-transaction infrastructure and services for the *Association pour la promotion des exportations* (APEX-CI). Funded mostly by BDT and the APEX-CI, implementation commenced in December 2001 and was scheduled to be operational in the third quarter of 2002. Due to the current political situation in the country it is not certain when and if this project will be operational.

Ecuador   Project to provide digital certification and value-added e-services/applications for *Corporación Ecuatoriana de Comercio Electrónico* (CORPECE), including training. The project became operational in February 2002 and was entirely funded by CORPECE. There needs to be further actions in the area of marketing and raising awareness on the potentials of this secure e-transaction infrastructure for meeting the needs of various sectors in the domain of e-services.

Peru   Project to provide digital certification and value-added e-services for LimaTel, the largest telecommunication operator in Peru. This project also included building local capacity through human resources development. This project deliverable included the establishment of a Registration Authority for the provisioning of digital certification services and other value-added e-services and became operational in February 2002. LimaTel provided the entire funding for this project.

Senegal   Project to establish secure e-transaction infrastructure for SONATEL and Trade Point Senegal. This project is funded mostly by ITU/BDT and SONATEL and was completed in December 2002. Technically this project is operational but again, the next phase is to address services for vertical markets for the use of this infrastructure.

Turkey   Funded by the World Trade Centre in Ankara (WTC Ankara) in Turkey, this project establishes the infrastructure for digital certification and value-added e-services/ applications for the WTC Ankara. The project became operational in the second quarter of 2002 and was entirely funded by the beneficiary organisation.

Vietnam   This project was the first Asian Electronic Commerce Center operational at the Vietnam Trade Network. The project allowed the interconnection of other E-Commerce projects in both developed and developing countries. The project was funded with in-kind contribution from ITU's industry partners. Due to the high cost for Internet access, this project is no longer sustainable.

2.2   Projects approved for year 2003

Azerbaijan   As from 2003, the ITU will provide assistance in establishing a national policy framework for the development of e-business at the request of the Ministry of Communications.

Cameroon   The ITU is already working on the implementation of an e-government infrastructure project with the Ministry of PTT aimed at creating efficiencies in government services and delivering e-administration services to citizens. This project is scheduled to be operational in 2003. A project document is being finalized for implementing a telecommunication information system in the country during the first quarter of 2003.

Caribbean region   As from the second quarter of 2003, a project on rural development and Multi-purpose Community Tele-centres will be implemented in the subregion.

Central America   A plan will be established for e-applications in Central America. E-commerce, e-government, e-health, and e-education will be part of the above-mentioned applications.

Dem. Rep.   ITU will work on the implementation of e-services through the assessment of needs, the
of the Congo   definition of technical and financial requirements and the proposal of a strategy, at the
                  request of the Ministry of PTT.

Georgia   As from 2003, the ITU will work on the implementation of an e-business infrastructure for
                  digital certification and e-transactions capable of delivering e-services, at the request of the
                  Ministry of Transport and Communications.

Kyrgyzstan   As from 2003, the ITU will provide assistance for the implementation of e-services through
                  needs assessment, the definition of technical and financial requirements and by proposing a
                  technology strategy for the Ministry of External Trade and Industry.

Mauritania   To be funded mostly by ITU/BDT, this project aims to establish e-commerce legislation
                  and an Internet Access Community Center (Multi-Purpose Community Telecentre) for
                  Women in Mauritania during the first quarter of 2003. The main deliverables of this project
                  are e-commerce solutions for Women through the Community Center. ITU is also working
                  with the government of Mauritania on another e-commerce project having a national scope
                  and to be funded in most part by the government of Mauritania.

Mongolia   As from 2003, the ITU will work on the implementation of e-business infrastructure for
                  digital certification and e-transactions capable of delivering e-services, at the request of the
                  Ministry of Foreign Affairs.

Paraguay   As from 2003, the ITU will work on the implementation of digital certification infra-
                  structure and applications for the delivery of secure e-applications for the Government of
                  Paraguay. This project will be partly funded by ITU/BDT with the participation of
                  Paraguay.

Seychelles   The implementation of an e-commerce infrastructure including secure e-payments to enable
                  the sale of services and products for the tourism sector of Seychelles. A first mission was
                  undertaken by the ITU in November 2002 to provide recommendations and a draft action
                  plan to be adopted by the Government. Some ongoing and pending actions for this project
                  include: refinement of the scope and requirements, the establishment of a task force and the
                  identification of key stakeholders (e.g., merchants, banks, and ISPs). This project is
                  scheduled to be operational in 2003 and is to be funded partly by ITU/BDT.

Tunisia   A multi-services e-applications platform is planned for 2003 with emphasis on e-health but
                  with the capability of delivering other e-services. ITU/BDT and the Tunisian partners are
                  working on the project document with the aim of submitting this project to the Telecom
                  Surplus Steering Committee for ITU's part of the funds expected to be about 10% of the
                  total budget for the project.

3   Capacity building

3.1   Completed actions

Several training programs have been undertaken to build local capacity in e-commerce, security and trust
technologies and on the legal issues related to the use of these technologies. Training workshops have been
organized for the Americas region, notably in Chile (for the Mercosur Member States), as well as for Africa
region, specifically in Senegal and for Asia and Pacific region, particularly in Pakistan. More than 27 courses

and seminars on ICT have been given in the Centre for Training and Development created in Venezuela as a result of the ITU Agreement with Fundandina. Some of these events are listed below:

Colombia, Ecuador and Peru	With the collaboration of ASETA, the ITU gave basic trainings to public and private entities in Colombia, Ecuador and Peru on the legal aspects of e-commerce and secure e-transaction.
Switzerland	In November 2002, a World e-Trust Briefing Session for the Permanent Missions was held at the ITU, Geneva, in order to inform them of the objectives of this new framework, the status, the activities and projects to be undertaken and also to explain how they could actively participate.
West African Countries	*(Host country: Senegal)* – With the collaboration and assistance of SONATEL, the ITU organized a subregional training workshop for Burkina Faso, Côte d'Ivoire and Senegal. The workshop addressed implementation and technology strategies for to e-services infra structure projects in these countries.

For 2003 and as in previous years, all project implementations have a capacity building component.

4   Policies, strategies and e-legislation

4.1   Completed actions

Policy guidance and assistance to adopt appropriate strategies was provided to countries from all regions of the world through direct assistance, seminars, training workshops and conferences. Many countries have been assisted to adopt national (and regional) policies and strategies for the introduction of new technologies but more specifically, in the domains of Internet Protocol and e-strategies. The BDT also provided assistance to some countries to facilitate the adoption of a proper legal framework for e-applications. Some of these actions were undertaken in the Andean Community, Burkina Faso, Cape Verde, the Caribbean region and Pakistan.

In the face of rapidly evolving technology, a well-steered policy and a legal framework are critical to fostering an environment for secure e-services/applications to flourish in developing countries.

Activities to address e-applications policies have taken place in Africa (Burkina Faso, Cameroon, Cape Verde, Mali, Mauritius, Morocco, Nigeria, Senegal and South Africa), Asia and Pacific (Islamic Republic of Iran, Lao PDR and Malaysia), Arab States (Algeria, Egypt, Kingdom of Saudi Arabia, the Sultanate of Oman, Tunisia and the United Arab Emirates), Europe and CIS (Belgium, Romania, Russian Federation, Switzerland and United Kingdom) and in the Americas region (Andean Community, Brazil, St. Lucia, United States and Venezuela). Some of these activities are highlighted below:

Andean Community	*Member States (Bolivia, Colombia, Ecuador, Peru and Venezuela) – March to April 2002:* At the request of the *Asociación de Empresas de Telecomunicaciones de la Comunidad Andina (ASETA),* discussed strategies and policy guidance towards the adoption of recommendations for a unique harmonized legal text on electronic commerce for the Andean Community Member States.
Burkina Faso	*(Host country) – November 2002* – Assistance was provided to Regulators from Africa on e-commerce legislation and with emphasis on a harmonized legal environment for the region.
Burkina Faso	The ITU provided training on the legal aspects of e-commerce and recommendations for the adoption of a project of Law in this domain to representatives of *Autorité de Régulation des Télécommunications* (ARTEL), *Office National des Télécommunications* (ONATEL) and of the Ministry of Communications.

Cape Verde   *September 2002*: At the request of the *Ministère des Infrastructures et Transports,* the ITU provided a training session on the legal aspects of e-commerce and recommendations to representatives from the public and private sectors (businesses, telecom operator, banking) for the adoption of a project of Law in this domain.

Egypt   *December 2002:* A Regional Seminar on e-Business was organised to address the e-commerce policies and strategies for the Arab Region. Topics ranging from e-security, business models, legal aspects and infrastructure were addressed with the objective of facilitating harmonized strategies for the Region.

Romania   *May 2002:* Organized a regional event for the Central Eastern Europe (CEE) countries and the Commonwealth of Independent States (CIS) in cooperation with the Romanian Ministry of Communications and Information Technology (CIT), and the Secretary of State for CIT. Exchanged views on e-commerce initiatives, presented country projects, addressed challenges and successes and highlighted the need for Regional Strategies for the development of e-commerce. With the objective of addressing practical issues related to e-commerce, more than 20 presentations from countries, external experts and the BDT were provided to cover security and trust, standards, legal issues, financial implications and national policy initiatives. The event also included panel discussions on best practices, appropriate strategies and successful models.

United States   *New York, January 2002 (Gender):* The ITU, the UNDP and the UNIFEM discussed and elaborated strategies for empowering African women in the use of Information and Communication Technologies (ICTs) for socio-economic development.

4.2   Approved actions for year 2003

Islamic Rep.   ITU will assist the Islamic Republic of Iran in elaborating policies and strategies for the
of Iran   implementation of e-commerce and e-finance. This action is to be funded by the Ministry of Post, Telegraph and Telephone (MTT), and scheduled to be completed in 2003.

Switzerland   Registration Authorities Workshop planned for the second quarter of year 2003. The objective of this workshop is to address technology strategies and policies in relation to the implementation of security and trust technologies in developing and least developed countries.

Syria   For the Arab Region, ITU will organize a regional seminar on e-education (including the use of Arabic language) to be held during the third quarter of year 2003.

Tunisia   As a global event, Tunisia will be host of the Third Telemedicine Symposium where strategies and policies to enhance the development of e-health will be elaborated. To be funded in most part by ITU/BDT, this event is scheduled for the fourth quarter of 2003.

United Arab   E-government seminar for Arab Region to address technology strategies and regional
Emirates   policies aimed at enhancing government services. This event to be funded mostly by BDT and the host country is scheduled for the fourth quarter of 2003 and covers all the countries in the Arab Region.

5 Partnerships

Working with partners is essential to meet the objectives of the ITU/BDT especially in the domain of e-commerce. This is so because there are many components and skills set required for the successful implementation of e-commerce services that need the collaboration of other partners. To this effect, partnership agreements have been established with FUNDANDINA of Venezuela, WISeKey, Goodwin Proctor LLP and World Trade Center Geneva.

FUNDANDINA

The Partnership with FUNDANDINA of Venezuela, the first e-commerce partnership, has led to the establishment of a centre for IT training in Venezuela, the creation of more than 90 Internet portals and the establishment of e-commerce solutions.

WISeKey

Activities in relation to the ITU-WTC-Geneva and WISeKey partnership have resulted in a number of beneficial services to ITU Membership. Most of these have been reported in the last progress report on e-commerce activities. Today, there are serious misunderstandings between ITU and WISeKey in the relationship. The need to maintain technology neutrality and non-exclusivity for all Partnerships between ITU and industry is central to the current friction between ITU and WISeKey. Other concerns include the dissatisfaction of some Member States in services provided by WISeKey within the framework of the Partnership. These issues are currently being addressed to seek solutions that would meet the needs of ITU Member States and also take into account the expectations of WISeKey in its relationship with ITU under the terms of the Partnership Agreement.

Goodwin Proctor LLP

The Agreement with Goodwin Proctor LLP expired and was not renewed after the first year. Goodwin Proctor LLP provided pro bono assistance to Mongolia in e-legislation. To address the needs of Member States in e-legislation, ITU is working with United Nations Commission on International Trade Law (UNCITRAL) to assist its Member States in establishing e-commerce legislation. This collaboration has already yielded positive results in Burkina Faso and will be used for Cape Verde and Mauritania in 2003.

World e-Trust MoU[3]

To address the needs for a multi-lateral, technology neutral and inclusive framework where developing countries will work together with industry partners in the same spirit and towards the achievement of well-defined objectives, the World e-Trust memorandum of understanding was launched by ITU just before WTDC-02. As of March 2003, 48 entities represented by governments, industry and various associations from 35 ITU Member States have already embraced this framework. For developing countries, the signatories include 14 ministries (including 9 Ministers) and heads of regulatory agencies. World e-Trust aims to bring together various stakeholders to work towards extending the deployment of e-applications (e.g., e-commerce, e-business, e-government, e-learning, and e-health) infrastructure and to provide the required security and trust for e-applications and other value-added services to bring the benefits of ICTs to developing and least developed countries.

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[3] Further information about World e-trust can be obtained from http://www.itu.int/ITU-D/e-strategy.

6   Conclusion

6.1   Observations

The constantly changing technology environment and the low time-to-deploy for the rollout of new technology services/applications imply several adjustments between the initiation and completion phases of a project.

The purpose of Programme 3 goes beyond the implementation of e-services/applications. These ICT solutions need to bring benefits to the population of developing countries and in this regard, they need to also address business models for sustainability. Some projects reported as implemented are facing new challenges in the provisioning of sustainable services. There is a need for the post-implementation issues of these projects to be addressed in the design phase.

In the area of e-commerce, there are several non-telecommunications services (such as banking, logistics, auditing, tracking and insurance) that play an equally important role in the deployment of such infrastructure. The absence of a direct relationship mostly with the financial sector, the low level of awareness in the banking sector of several developing countries for e-payment services/applications creates additional challenges as banking services and the private financial networks need to be directly connected to the e-commerce infrastructure for the delivery of secure e-payment solutions.

6.2   Proposals

a)   E-commerce is one of several e-applications with similar requirements as many others. Strategies and guidelines for their implementation need to take into account the synergies that exist between the various e-applications.

b)   Some common challenges such as e-security and trust need to be addressed for all e-applications to reduce the overall cost of implementing the desired security for these applications and services. E-security strategies and policies need to take into account the overall needs of various e-applications.

c)   Innovative ways of establishing partnerships that take into account the various sectors involved and their interests are necessary for meeting the challenges for implementing e-commerce solutions. World e-Trust has been put together to meet these challenges and could be an appropriate vehicle for meeting the common objectives for e-applications.

d)   Even in cases where it is possible for these infrastructures to be remotely hosted in industrialized countries, it is important that efforts be made so that developing countries play an active role in acquiring the skills and enabling the transfer of these technologies. Emphasis needs to be put on having e-applications infrastructure hosted and run in developing countries.

e)   As countries rollout e-commerce services, it is necessary for appropriate business models to be developed that take into account the local requirements in order to ensure long-term sustainability.

Annex 2

ITU General Secretariat activity on E-commerce

MEMORANDUM

Date: 28 March 2003

To: Mr. Nabil Kisrawi, Chairman of ITU-D Study Group 2

From: Mr. Tim Kelly, Head of Strategy and Policy unit (SPU)

Cc: Mr. A. Sherbini, Rapporteur on Question 17/2

Subject: ITU General Secretariat activity on e-commerce.

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This is in response to your memorandum dated 24 March 2003, concerning the above-mentioned matter.

One of the primary functions of the Strategy and Policy Unit is to conduct research on issues of high current interest to its members and provide topical information and analysis.

Regarding electronic commerce, SPU organized the first New Initiatives Workshop as far back as 1999 on "Electronic Signatures and Certification Authorities" (http://www.itu.int/osg/spu/ni/esca/).

The subject has also been covered in various SPU publications. For instance, chapter three of the *Internet for Development Report 1999* (http://www.itu.int/ITU-D/ict/publications/inet/1999/index.html) discusses "Internet for commerce".

E-commerce over wireless platforms was recently explored under the heading of mobile transaction services (Chapter two and four) in the *ITU Internet Reports 2002: Internet for a Mobile Generation* (http://www.itu.int/osg/spu/publications/sales/mobileinternet/).

Some of the country case commissioned by SPU consider, to some extent, wireless and wireline e-commerce, e.g. http://www.itu.int/3g and http://www.itu.int/spu/casestudies).

Moreover, the ITU, as an organization, actively uses e-commerce for the sale and distribution of its own products and services. The electronic bookshop (http://www.itu.int/publications/bookshop/) under the General Secretariat is a good example. Also, registration for Telecom FORUM can now be done entirely online.

Annex 3

ITU-T sector action plan for Question 9/17 and Question 10/17

Action plan for Question 9/17

1   Question 9/17: Directory services and systems

2   Objectives

•   Progress current Final Proposed Draft Amendments (FPDAMs) on Friends attributes and Paged results on the DSP.

•   Progress current Working Documents on LDAP alignment, Related entries, and Extensions to Public-key and attribute certificate frameworks.

•   Progress defects and produce Technical Corrigenda.

3   Existing Recommendations

–   ITU-T Recommendation X.500 (2001) | ISO/IEC 9594-1:2001, Information technology – Open Systems Interconnection – The Directory: Overview of concepts, models and services.

–   ITU-T Recommendation X.501 (2001) | ISO/IEC 9594-2:2001, Information technology – Open Systems Interconnection – The Directory: Models.

–   ITU-T Recommendation X.509 (2000) | ISO/IEC 9594-8:2001, Information technology – Open Systems Interconnection – The Directory: *Public-key and attribute certificate frameworks*.

–   ITU-T Recommendation X.511 (2001) | ISO/IEC 9594-3:2001, Information technology – Open Systems Interconnection – The Directory: Abstract service definition.

–   ITU-T Recommendation X.518 (2001) | ISO/IEC 9594-4:2001, Information technology – Open Systems Interconnection – The Directory: Procedures for distributed operation.

–   ITU-T Recommendation X.519 (2001) | ISO/IEC 9594-5:2001, Information technology – Open Systems Interconnection – The Directory: Protocol specifications.

–   ITU-T Recommendation X.520 (2001) | ISO/IEC 9594-6:2001, Information technology – Open Systems Interconnection – The Directory: Selected attribute types.

–   ITU-T Recommendation X.521 (2001) | ISO/IEC 9594-7:2001, Information technology – Open Systems Interconnection – The Directory: Selected object classes.

–   ITU-T Recommendation X.525 (2001) | ISO/IEC 9594-9:2001, Information technology – Open Systems Interconnection – The Directory: Replication.

–   ITU-T Recommendation X.530 (2001) | ISO/IEC 9594-10:2001, Information technology – Open Systems Interconnection – The Directory: Use of systems management for administration of the Directory.

–   ITU-T Rec. F.510 (1997), Automated Directory Assistance, White Pages Service Definition.

–   ITU-T Rec. E.115 (1995), Computerized Directory Assistance.

4   Liaisons

IETF LDAP groups

IETF PKIX group

5   Work programme and milestones

Extensions to support the concept of friend attributes   September 2003

Support of paged results on the DSP   September 2003

Maximum alignment with the work done within IETF on LDAP   March 2004

Related entries with the Directory – phase 2   March 2004

6   Future meetings

An interim Q.9/17 meeting was held as a collaborative meeting with ISO/IEC JTC 1/SC 6/WG 7 during the JTC 1/SC 6 meeting, 17-21 February 2003 in London (UK).

Further Q.9/17 meetings will be held with the regularly scheduled Study Group 17 meetings throughout this study period.

7   Contact

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Action plan for Question 10/17

1   Question 10/17: Security requirements, models and guidelines for communication systems and services

2   Objectives

a)   Standardize security services for various emerging data communication technologies.

b)   Perform actions in accordance with Lead Study Group (LSG) on Communication Systems Security (CSS) coordination functions.

c)   Consider standardization needs relative to functions and mechanisms through which security services can be provided.

d)   Develop security concepts, architectures and Recommendations applicable to areas such GII, IP, NGN, future wireless systems and electronic business.

e)   Provide assistance to other ITU-T Study Groups embedding security in specific protocol suites. Review project-oriented security solutions for consistency and correction of application.

f)   Maintain and update existing Recommendations.

g)   Consider standardization needs in such areas as security management, telebiometrics, mobile security, and network security.

h)   Coordinate security activities with other ITU-T Study Groups, ISO/IEC JTC 1, and other consortia and fora, as appropriate.

i)   Provide awareness on new technologies related to security applications.

j)   Clarify public safety and security issues concerning human interface (e.g. Wetware).

3   Focus

We will focus on the following areas:

1)   *Communication Systems Security*

Considering the existing X.800-series Recommendations, further studies on security architecture and security models should be carried out for communication systems.

2)   *Security Management*

Identifying which security controls should be in place requires careful planning and attention to detail. We will study information security management system (ISMS) such as risk assessment, identification of assets and implementation characteristics for telecommunications operators.

3)   *Telebiometrics*

Telebiometric sensors are ordered within a model. Categorization of hardware is simplified in a neat physiological subset of the general quantities (SI), their units and their letter symbols, together with upper and lower safety and security thresholds. Further issues in relation to telebiometrics will be also discussed such as guidance on use of biometrics for telecommunication.

4)   *Mobile Security*

Considering security problems derived from restrictions in mobile environments such as low power, small memory size, small display, and security solutions should be investigated based on mobile characteristics. Security solutions will be discussed in the area of ETS (emergency telecommunications services) based on the requirements from Q.I/16, as well as in the areas of general mobile security.

5)   *Other Relevant Topics*
•   Vulnerabilities of systems and networks, etc.
•   Maintaining the Compendia on communication systems security.

4   Existing Recommendations

No.	Title
X.272	Data compression and privacy over frame relay network
X.800	Security architecture for Open Systems Interconnection for CCITT application
X.802	Information technology – Lower layers security model
X.803	Information technology – Open Systems Interconnection – Upper layers security model
X.810	Information technology – Open Systems Interconnection – Security frameworks for open systems: Overview
X.811	Information technology – Open Systems Interconnection – Security frameworks for open systems: Authentication framework
X.812	Information technology – Open Systems Interconnection – Security frameworks for open systems: Access control framework
X.813	Information technology – Open Systems Interconnection – Security frameworks for open systems: Non-repudiation framework
X.814	Information technology – Open Systems Interconnection – Security frameworks for open systems: Confidentiality framework
X.815	Information technology – Open Systems Interconnection – Security frameworks for open systems: Integrity framework
X.816	Information technology – Open Systems Interconnection – Security frameworks for open systems: Security Audit and Alarms framework
X.830	Information technology – Open Systems Interconnection – Generic upper layers security: Overview, models and notation
X.831	Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) service definition
X.832	Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) protocol specification
X.833	Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax specification
X.834	Information technology – Open Systems Interconnection – Generic upper layers security: Security Exchange Service Element (SESE) Protocol Implementation Conformance Statement (PICS) proforma
X.835	Information technology – Open Systems Interconnection – Generic upper layers security: Protecting transfer syntax specification Protocol Implementation Conformance Statement (PICS) proforma
X.841	Information Technology – Security techniques – Security information objects for access control
X.842	Information Technology – Security techniques – Guidelines on the use and management of trusted third party services
X.843	Information Technology – Security techniques – Specification of TTP services to support the application of digital signatures

5   Liaisons

a)   ITU-T Study Groups 2, 4, 9, 11, 12, 13, 15, 16, SSG, and ITU-R

b)   ISO/IEC JTC 1 & IEC TC 25

c)   IETF

d)   UN/ECE

e)   ETSI

6   Work programme and milestones

a)   Documents

- Compendium of ITU-T Approved Security Definitions.

- Catalogue of ITU-T Recommendations Related To Communication Systems Security.

- Addendum to Compendium of ITU-T Approved Security Definitions (refer to: http://www.itu.int/ITU-T/studygroups/com17/cssecurity.html).

b)   Recommendations

- Information security management – first draft Recommendation to be developed in 2003.

- Communication systems security – first draft Recommendation to be developed in 2003.

- Mobile security – first draft Recommendation to be developed in 2003.

- Telebiometrics – first draft Recommendation to be developed in 2003.

c)   Coordination

- Coordinate with ITU-T SSG on IMT-2000 security-related issues.

- Collaborate with ISO/IEC JTC 1/SC 27, SC 37.

- Coordinate informally with the Internet Engineering Task Force (IETF) and other consortia and fora as appropriate to identify security standardization activities pertinent to ITU-T developments.

- Coordinate with Study Group 13 on security issues related to NGN.

- UN/ECE on electronic business,

7   Future meetings

An interim meeting was organized on 7-9 April 2003 in Budapest (Hungary). Also, the possibility of holding an additional Rapporteur meeting before the 57th IETF meeting in July 2003 will be discussed.

8   Contact

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Annex 4

Detailed Analysis of the replies to the Questionnaire

Introduction

This document serves as an Annex to the Analysis of Questionnaire ITU-D Study Group 2 Q17/2. It is aimed at assisting the analysis proper for this Question by presenting the input data in various formats through the use of database tools. Questions related to e-health (including tele-medicine, tele-health) have not been taken into account because they are being addressed by another Question.

In understanding the data presented in this document, it is important to emphasize that not all percentages add up to 100 because countries can and have selected multiple options for many of the questions.

Outline of the preliminary report

The following countries responded to the Questionnaire:

Albania; Algeria; Armenia; Bahrain; Belarus; Belgium; Benin; Bolivia; Burkina Faso; Cameroon; Canada; Colombia; Costa Rica; Czech Republic; Djibouti; Egypt; El Salvador; Eritrea; Finland; French Polynesia; Greece; Grenada; Guyana; Hungary; Japan; Jordan; Kuwait; Lebanon; Lithuania; Malawi; Mauritius; Mexico; Moldova; Morocco; Myanmar; Namibia; Nicaragua; Niger; Norway; Oman; Pakistan; Peru; Poland; Portugal; Qatar; Saudi Arabia; Seychelles; Slovak Republic; South Africa; Spain; Sudan; Swaziland; Sweden; Syria; Thailand; Turkey; Ukraine; United Arab Emirates and Zimbabwe.

These countries represent all 5 ITU-D regions of the world. From Africa we got 13 replies, 12 from the Americas, 18 from Arab Region, 5 from Asia and Pacific and 18 from Europe & CIS. The pie chart below represents the percentages per ITU region (See chart below)

ITU-D Regions
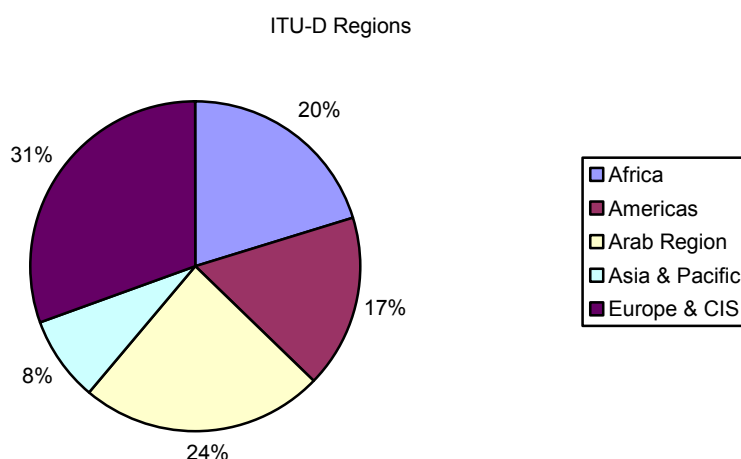
Not only developing countries (LDCs, Low Income-Developing or Transitional Economy) have replied on the questionnaire, some industrialized and High income-Developed countries provided the information about the progress in ITU activities for E-services. (See chart below).

Country Groups
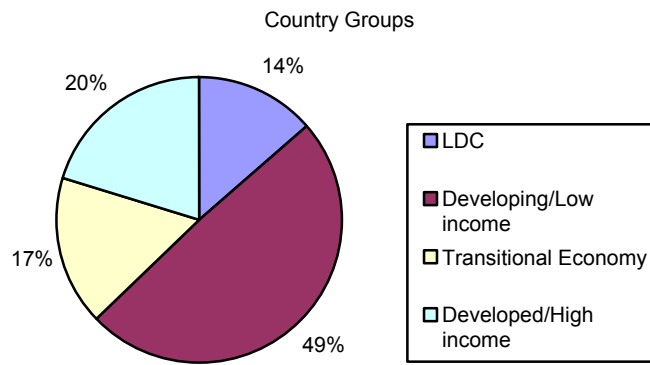
Question 1: Which E-services have already been introduced in your country?

E-service	Replies	Countries	Countries %
E-government	38	34	57.6
E-business	43	38	64.4
E-education	36	32	54.2
Others	16	14	23.7
No E-service	12	10	16.9

E-business appears to be the most popular of the e-services closely followed by e-government and e-education. The data also shows that countries have already introduced other types of e-services that are not part of this analysis. The development of e-services is not limited to developed countries or to specific regions.

(See charts below)

Introduced E-services

	E-government	E-business	E-education	Others	No E-service
%	57.6	64.4	54.2	23.7	16.9
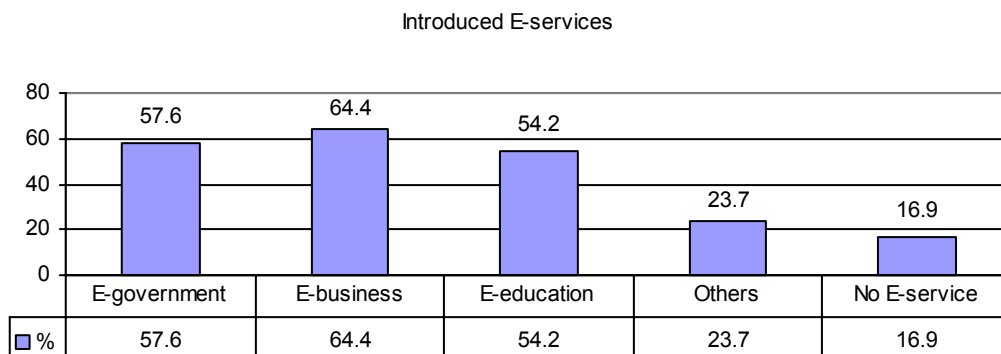
Introduced E-services for Regions

	E-government	E-business	E-education	Others	No E-service
Africa	6.7	10.1	10.1	0	6.7
Americas	11.8	13.5	8.4	3.3	0
Arab Region	11.8	11.8	11.8	8.4	1.7
Asia & Pacifique	8.4	8.4	6.7	1.7	0
Europe & CIS	18.6	2.3	16.9	11.8	8.4

Implemented E-Services in Countries in Regions

	E-government	E-business	E-education	Others	No E-service
Africa	33.3	50	50	0	33.3
Americas	70	80	50	20	0
Arab Region	50	50	50	35.7	7.1
Asia & Pacific	100	100	80	20	0
Europe & CIS	61.1	66.6	55.5	38.8	27.7

Implemented E-Services in Country Groups

	E-government	E-business	E-education	Others	No E-service
LDC	1.7	5	6.7	0	5
Developing/Low Income	32.2	33.9	25.4	8.4	3.3
Transition	6.7	8.4	6.7	3.3	6.7
Developed/High income	16.9	16.9	15.2	11.8	1.7

Implemented E-Services in Countries in Country Groups

	E-government	E-business	E-education	Others	No E-service
LDC	12.5	37.5	50	0	62.5
Developing/Low Income	65.5	68.9	51.7	17.2	6.8
Transition	40	50	40	20	40
Developed/High income	83.3	83.3	75	58.3	8.3

Question 2: Which E-services are for more importance to be implemented today in your country although the process has not started?

E-service	Replies	Countries	Countries %
E-government	35	30	50.8
E-business	30	26	44
E-education	33	27	45.7
Others	15	12	20.3
No E-service	1	1	1.7

E-government is considered by more than 50% of the countries as the most important e-service to be implemented. This figure, it closely followed by other e-services (e-education and e-business).

Very Important E-services to be implemented today

	E-government	E-business	E-education	Others	No E-service
%	50.8	44	45.7	20.3	1.7
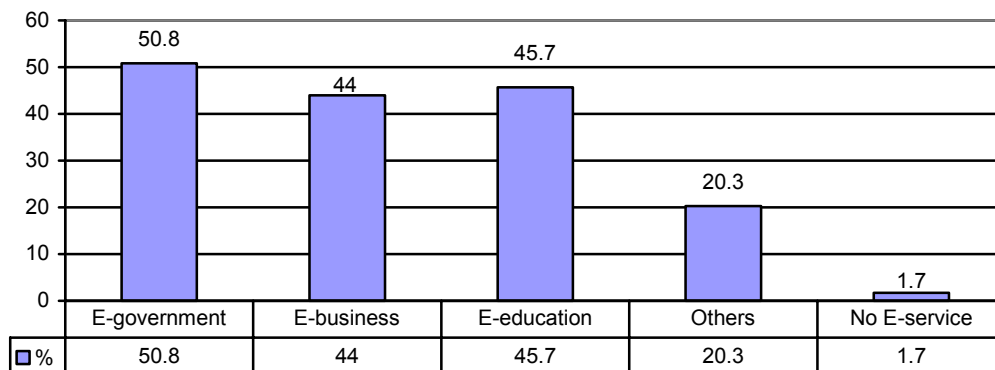
Very important E-services to be implemented today in Regions

	E-government	E-business	E-education	Others	No E-service
Africa	10.1	13.5	13.5	0	0
Americas	8.4	8.4	6.7	6.7	0
Arab Region	16.9	11.8	13.5	3.3	0
Asia &Pacifique	1.7	0	3.3	3.3	1.7
Europe & CIS	15.2	11.8	10.1	3.3	0
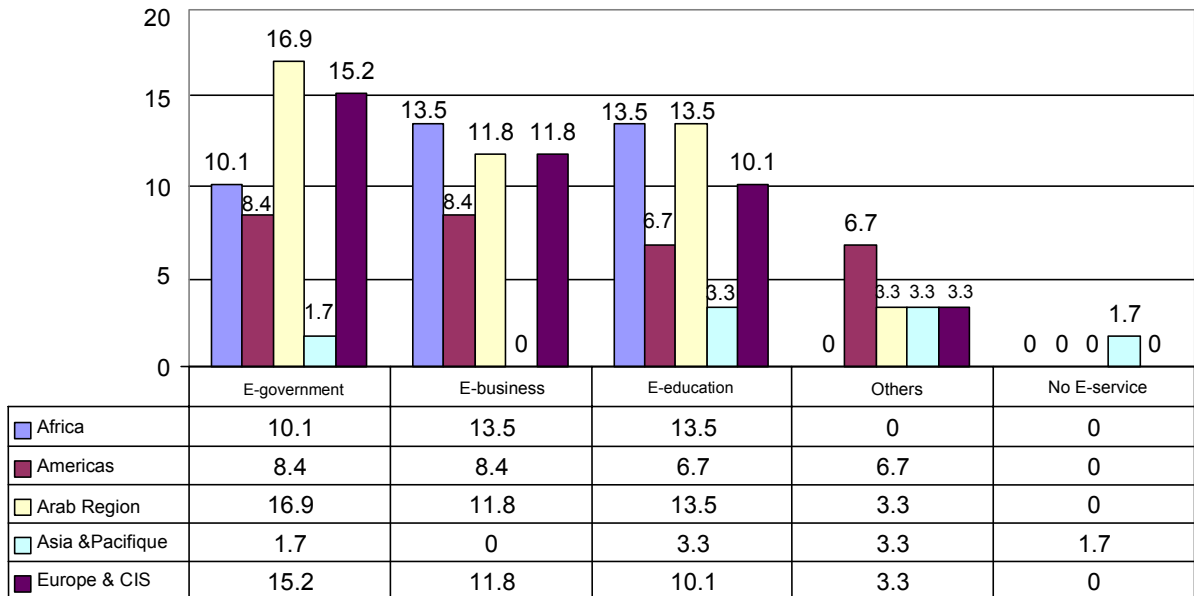
The Arab and European regions have the highest score for the importance of e-government while Africa considers e-education and e-business (same level of importance) as the most important e-services to be implemented.

Very important E-services for today in Countries in Regions

	E-government	E-business	E-education	Others	No E-service
Africa	50	66.6	66.6	0	0
Americas	50	50	40	40	0
Arab Region	71.4	50	57.1	14.2	0
Asia & Pacifique	20	0	40	40	20
Europe & CIS	50	38.8	33.3	11.1	0
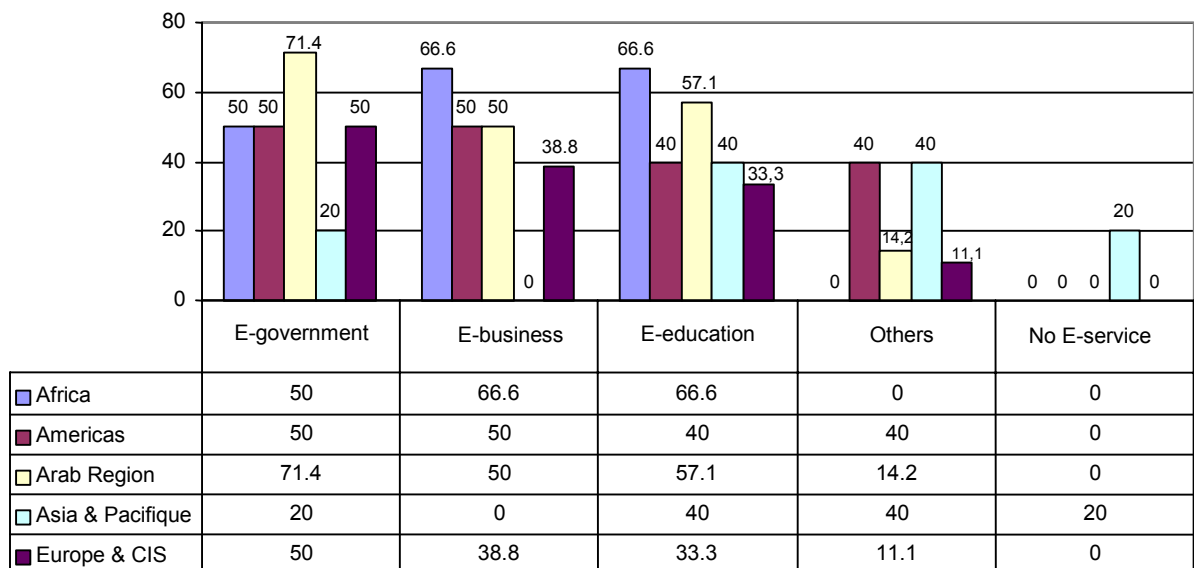
Very Important E-services to be implemented today in Country Groups

	E-government	E-business	E-education	Others	No E-service
LDC	8.4	8.4	11.8	0	0
Developing/Low income	27.1	23.7	25.4	11.8	1.7
Transition	10.1	10.1	6.7	1.7	0
Developed/High income	6.7	3.3	3.3	5	0
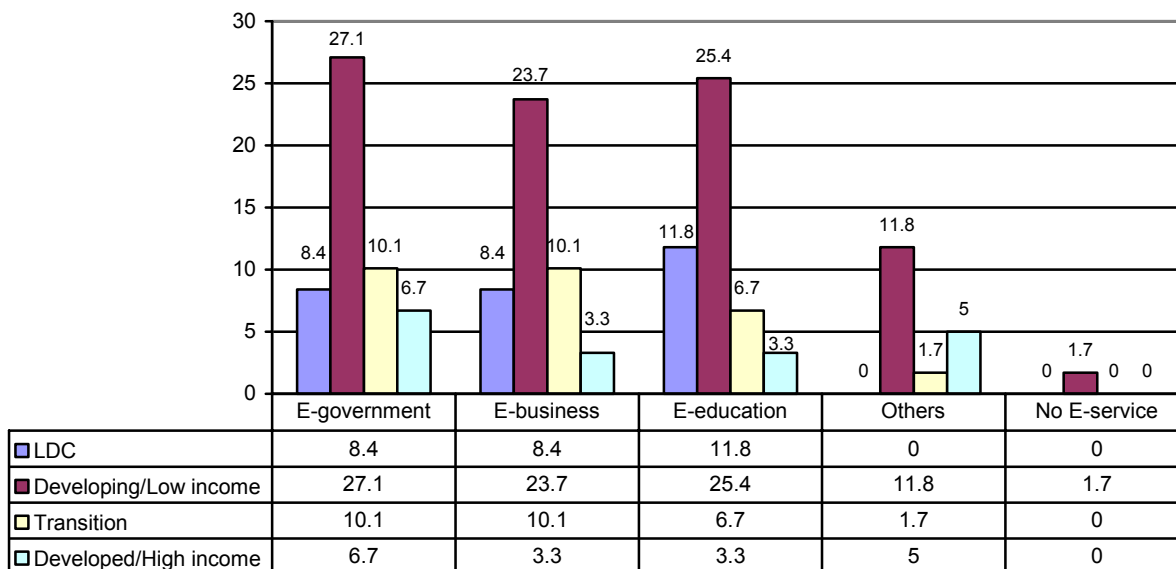
E-education is ranked highest by LDCs while developing and low-income countries consider e-government as their highest priority.

Very Important E-services to be implemented today in Countries in Country Groups
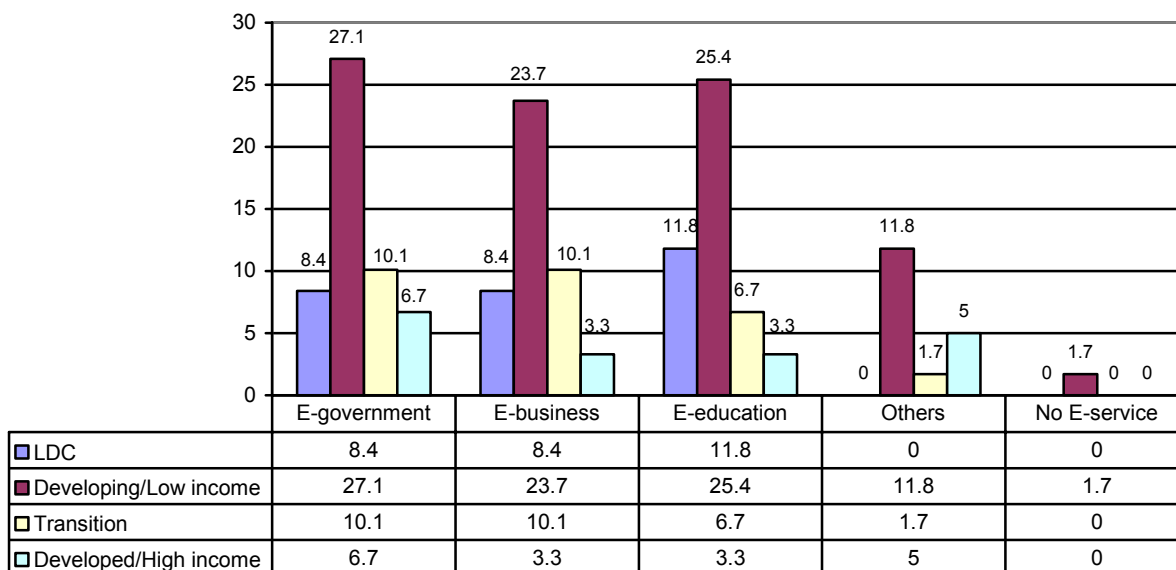
	E-government	E-business	E-education	Others	No E-service
LDC	8.4	8.4	11.8	0	0
Developing/Low income	27.1	23.7	25.4	11.8	1.7
Transition	10.1	10.1	6.7	1.7	0
Developed/High income	6.7	3.3	3.3	5	0

Question 3: Which E-services are planned to be introduced in your country within the next five years?

E-service	Replies	Countries	Countries %
E-government	47	39	66.1
E-business	42	35	59.3
E-education	48	40	67.8
Others	24	20	33.8
No E-service	0	0	0

The information from the table above gives the picture of preferences. E-education (40 countries), E-government (39 countries) and E-business (35 countries) are planned to be implemented (or improved) in countries.

Planned E-services to be implemented within the next 5 years

	E-government	E-business	E-education	Others	No E-service
%	66.1	59.3	67.8	33.8	0
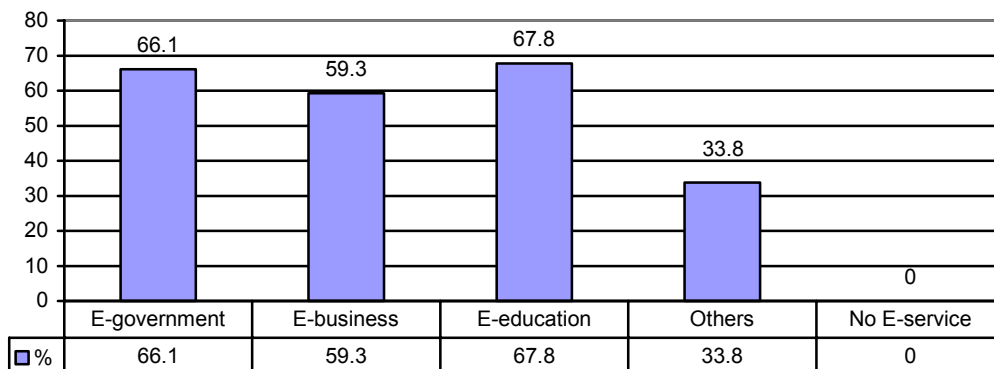
Overall, E-education closely followed by E-government are planned within the next five years by the majority of countries.

Question 4: The problems that can interfere with the introduction of E-services in your country.

Problems	Replies	Country	Country %
Infrastructure	49	44	74.5
Regulatory aspects	40	35	59.3
Awareness	47	42	71.2
Technical expertise	31	27	45.7
Others	16	15	25.4

Based on the responses, poor and inappropriate infrastructure (49 replies) from 44 countries (around the world) was cited as the main challenge in relation to e-services implementation. Lack of awareness is another highly cited problem with 47 replies from 42 countries. Several responses also cited regulatory issues as a serious challenge followed by 31 respondents from 27 countries that considered the low level of technical expertise as another important barrier.

The most important specified problems are: cultural aspects; problems with hardware (cost and accessibility); linguistic problems; prices and accessibility of the Internet, trust and financial problems.

Problems

	Infrastructure	Regulatory aspects	Awareness	Technical expertise	Others
☐ %	74.5	59.3	71.2	45.7	25.4
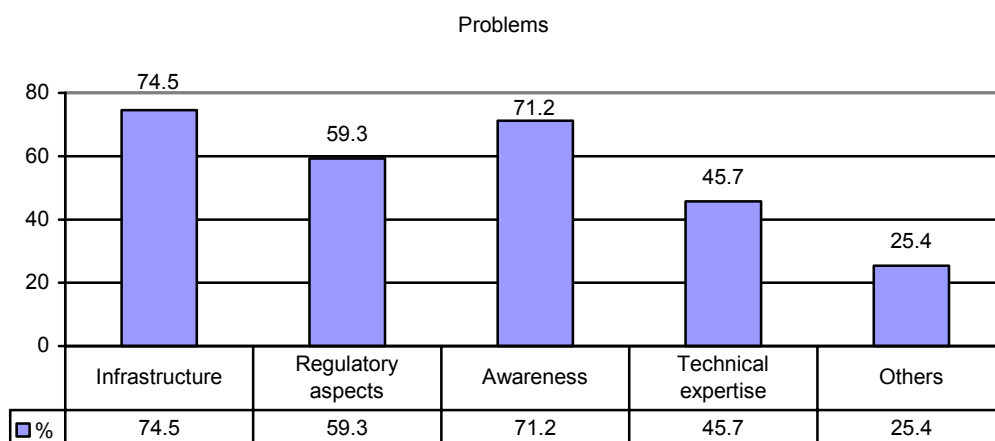
Common Problems for Regions

	Infrastructure	Regulatory aspects	Awareness	Technical expertise	Others
Africa	20.3	11.8	13.5	15.2	3.3
Americas	13.5	10.1	13.5	8.4	5
Arab Region	13.5	18.6	20.3	11.8	5
Asia & Pacific	5	5	6.7	5	1.7
Europe & CIS	22	13.5	16.9	5	10.1

Problems for Countries in Regions

	Infrastructure	Regulatory aspects	Awareness	Technical expertise	Others
Africa	100	58.3	66.6	75	16
Americas	80	60	80	50	30
Arab Region	57.1	78.5	85.7	50	21.4
Asia & Pacific	60	60	80	60	20
Europe & CIS	72.2	44.4	55.5	16.6	33.3

Common Problems for Country Groups
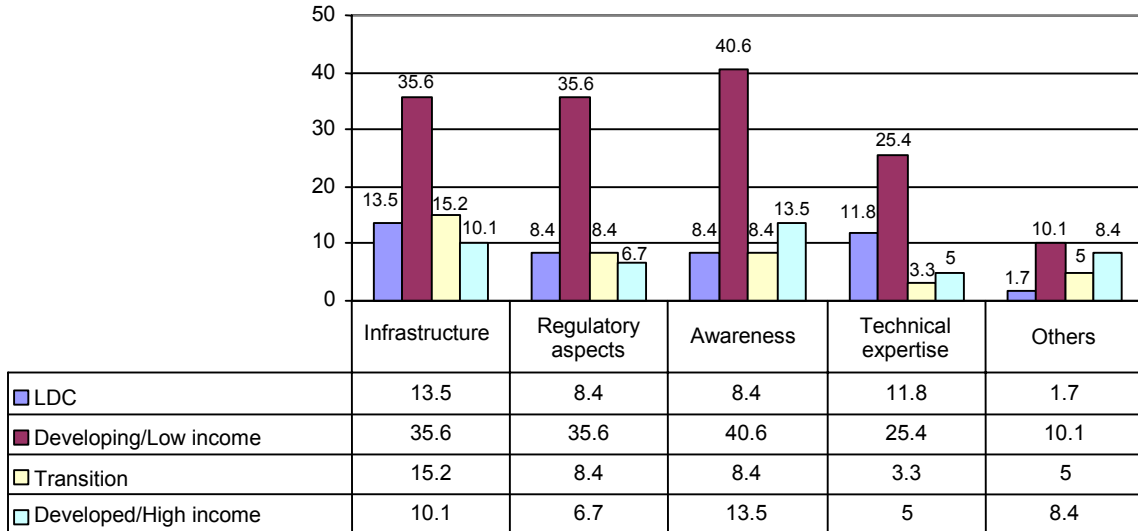
	Infrastructure	Regulatory aspects	Awareness	Technical expertise	Others
LDC	13.5	8.4	8.4	11.8	1.7
Developing/Low income	35.6	35.6	40.6	25.4	10.1
Transition	15.2	8.4	8.4	3.3	5
Developed/High income	10.1	6.7	13.5	5	8.4

Problems for Countries in Country Groups

	Infrastructure	Regulatory aspects	Awareness	Technical expertise	Others
LDC	100	62.5	62.5	87.5	12.5
Developing/Low income	72.4	72.4	82.7	51.7	20.6
Transition	90	50	50	20	30
Developed/High income	50	33.3	66.6	25	41.6
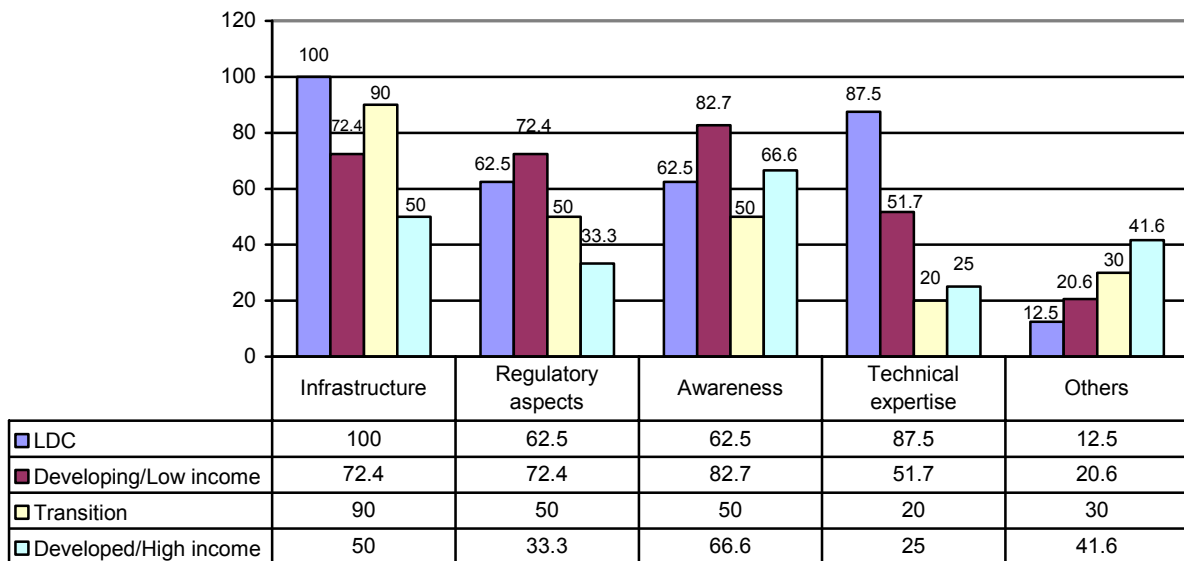
Question 5: In your opinion, how can ITU help your country solve those problems? (Note: the problems named in Question 4).

Possible help from ITU	Replies	Countries	Countries %
Pilot Programs	48	43	72.8
Infrastructure	22	18	30.5
Financial support	36	31	52.5
Technical expertise	36	29	49.1
Human resource development	43	38	64.4
Others	11	10	16.9

The majority of countries that responded considered pilot programs as the best way ITU could assist them in addressing the challenges to e-applications. This is followed by building capacity through human resources development. A few countries such as Japan, Canada, Finland and South Africa responded that they did not need ITU assistance while countries such as Bolivia, Egypt, Guyana, Mexico, Niger, Oman, Pakistan and Sudan selected all options.

Possible help from ITU

	Pilot Programs	Infrastructure	Financial support	Technical expertise	Human resource development	Others
%	72.8	30.5	52.5	49.1	64.4	16.9
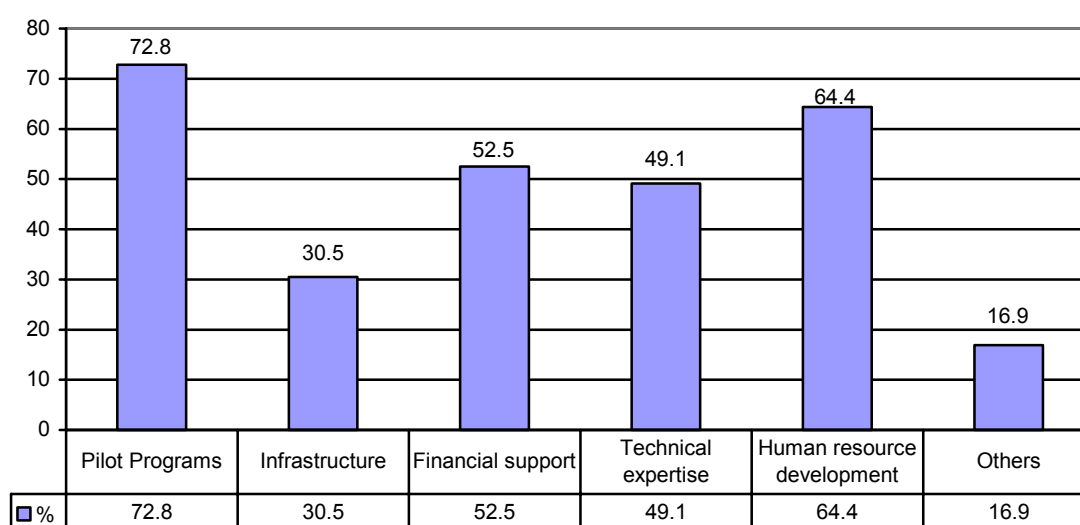
Question 6: The problems that interfere with implementing E-government in your country.

Problems	Replies	Countries	Countries %
Lack of awareness	37	33	55.9
Government Bureaucracy	41	37	62.7
Availability of documents in digital form	35	30	50.8
Computer illiteracy	31	27	45.7
Others	22	18	30.5

Government bureaucracy is cited as the main challenge in the implementation of e-government followed by lack of awareness and availability of documents in digital form.
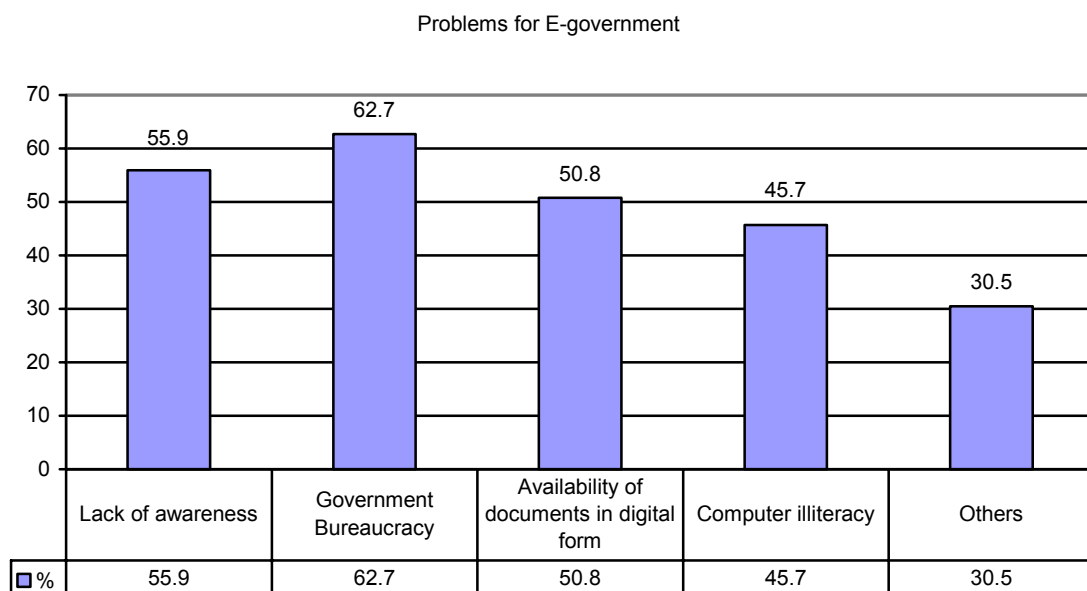
Problems for E-government

	Lack of awareness	Government Bureaucracy	Availability of documents in digital form	Computer illiteracy	Others
%	55.9	62.7	50.8	45.7	30.5

Question 7: The problems encountered in implementing E-transaction/banking in your country.

Problems	Replies	Countries	Countries %
Information and network security	38	32	54.2
Infrastructure	35	30	50.8
Banking system	22	20	33.9
Others	22	20	33.9

For e-transactions including e-banking, security is the main problem, closely followed by the poor or inadequate infrastructure.

Problems for E-transaction/banking

	Information and network security	Infrastructure	Banking system	Others
%	54.2	50.8	33.9	33.9
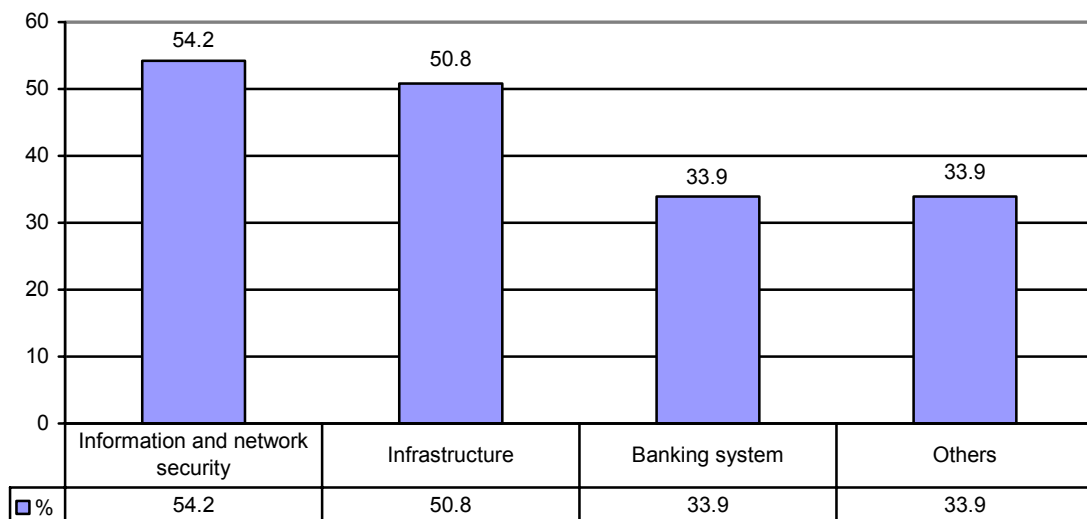
Question 8: The problems encountered in implementing E-education in your country.

Problems	Replies	Countries	Countries %
Human resource development	43	35	59.3
Computer cost and availability	47	41	69.5
Infrastructure	33	29	49.1
Curriculum in E-based format	32	28	47.4
Others	16	15	25.4

Affordable access to computers was cited as the main problem for e-education followed by the absence of skilled human resources.

Problems for E-education

	Human resource development	Computer cost and availability	Infrastructure	Curriculum in E-based format	Others
%	59.3	69.5	49.1	47.4	25.4
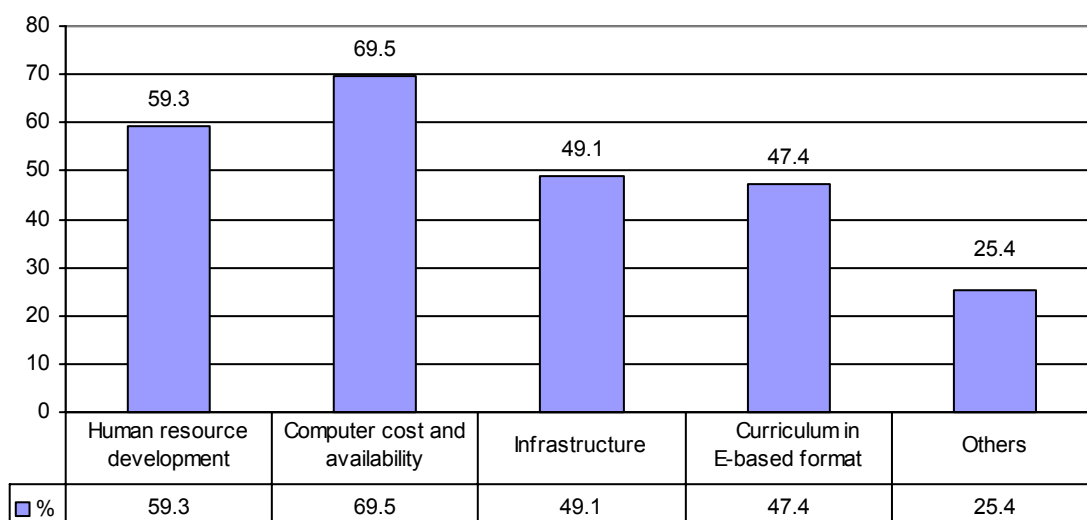
Question 9: The problems encountered in implementing E-business in your country.

Problems	Replies	Countries	Countries %
Awareness at executive levels	30	27	45.7
Infrastructure	31	28	47.4
Readiness of companies and business organization	51	44	74.5
Legal framework	36	32	54.2
Others	14	12	20.3

For e-business, the lack of readiness by business organizations seems to be the main problem.
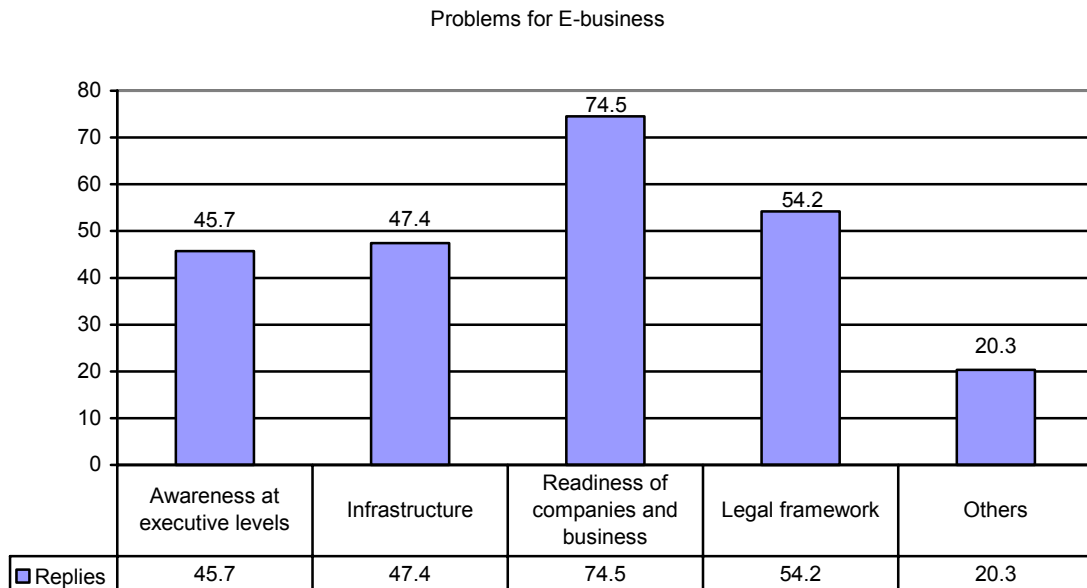
Problems for E-business

	Awareness at executive levels	Infrastructure	Readiness of companies and business	Legal framework	Others
Replies	45.7	47.4	74.5	54.2	20.3

Question 10: Are there any ITU programmes concerned with any of the following E-activities in your country?

E-services	Replies	Countries	Countries %
E-government	6	6	10.1
E-business	8	7	11.8
E-education	7	7	11.8
None	41	37	62.7

More than 50 percent of the countries responded that there are no related ITU programmes in their countries. Lithuania, Malawi, Moldova, Morocco, Seychelles and Thailand however responded that there are some ITU programmes in E-services. E-government, e-education and e-business seem to be equally represented in the response.

ITU programmes

	E-government	E-business	E-education	Others
☐ %	10.1	11.8	11.8	62.7
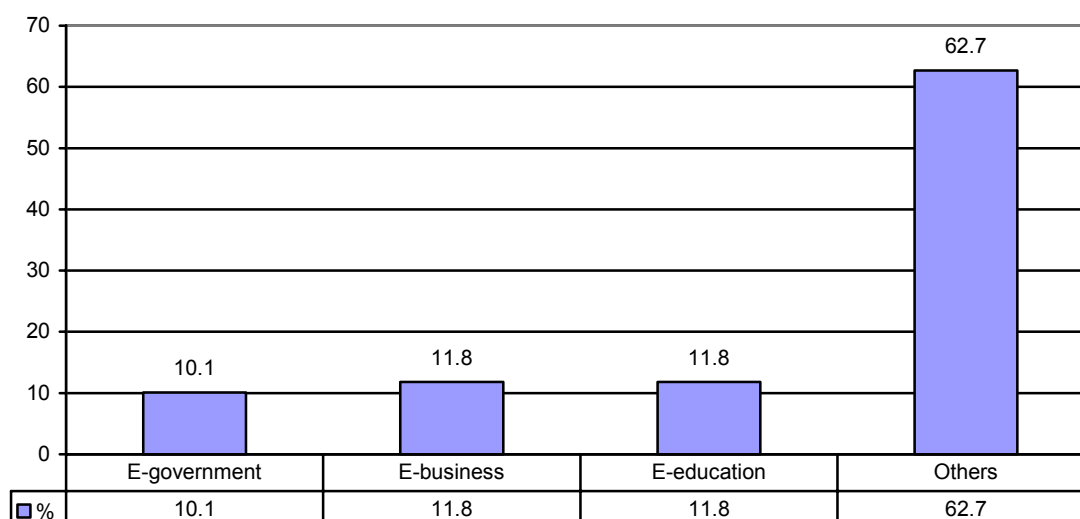
ITU programmes for Regions

	E-government	E-business	E-education	Others
Africa	3.3	5	1.7	10.1
Americas	0	0	1.7	11.8
Arab Region	1.7	0	0	20.3
Asia & Pacific	1.7	3.3	3.3	3.3
Europe & CIS	3.3	3.3	5	15.2

ITU programmes for Countries in Regions

	E-government	E-business	E-education	Others
Africa	16.6	25	8.3	50
Americas	0	0	10	70
Arab Region	7.1	0	0	85.7
Asia & Pacific	20	40	40	40
Europe & CIS	11.1	11.1	16.6	50
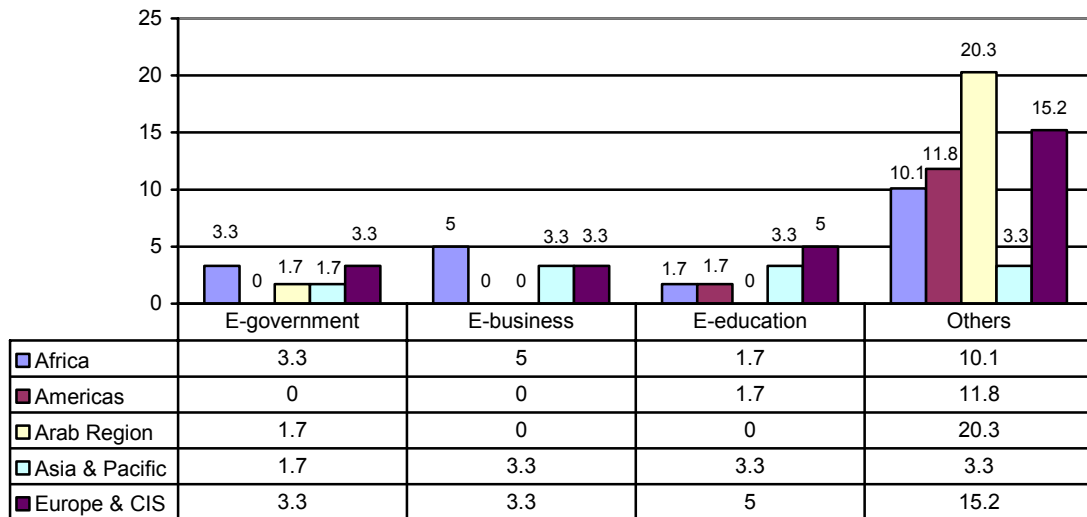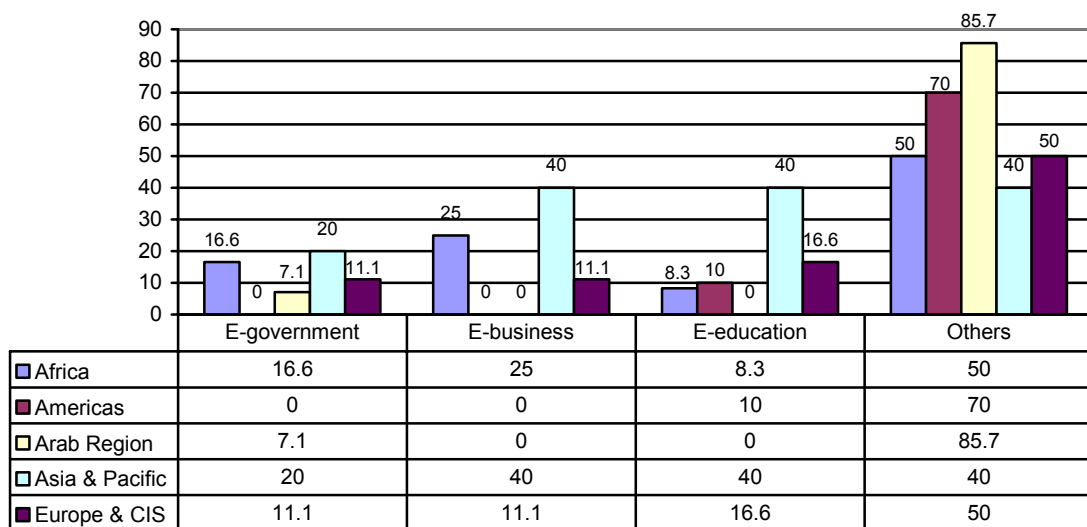
ITU programmes in Country Groups
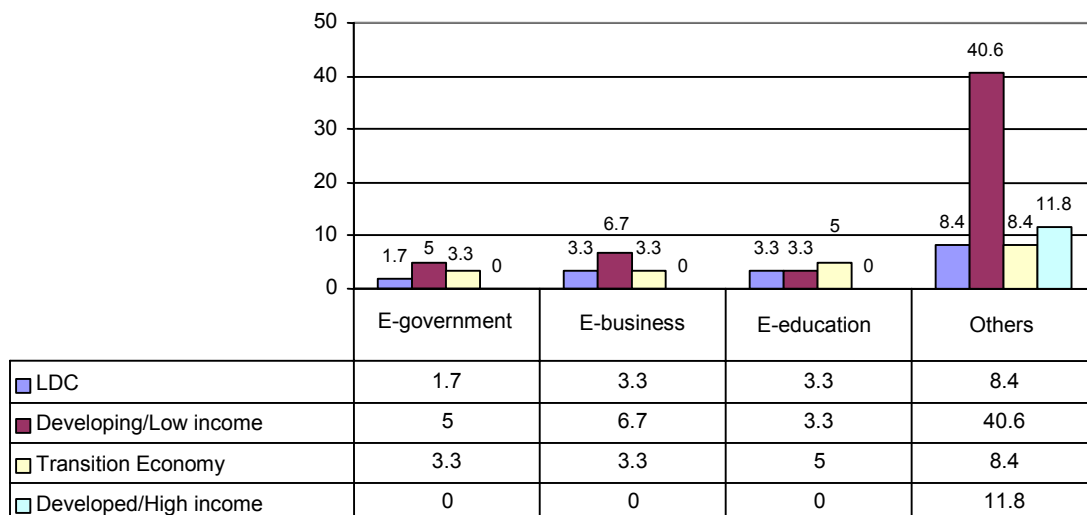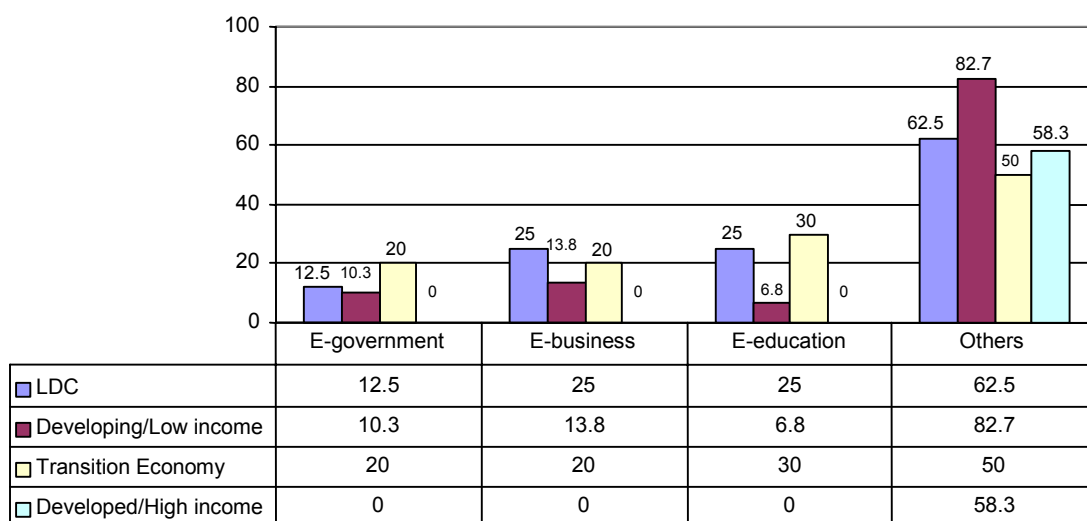
	E-government	E-business	E-education	Others
LDC	1.7	3.3	3.3	8.4
Developing/Low income	5	6.7	3.3	40.6
Transition Economy	3.3	3.3	5	8.4
Developed/High income	0	0	0	11.8

ITU programmes for Countries in Country Groups

	E-government	E-business	E-education	Others
LDC	12.5	25	25	62.5
Developing/Low income	10.3	13.8	6.8	82.7
Transition Economy	20	20	30	50
Developed/High income	0	0	0	58.3

Question 11: Are there any ITU pilot projects for providing guidance for E-services deployment in your country through:

ITU Pilot Project	Replies	Countries	Countries %
Policies	3	2	3.3
Strategies	3	2	3.3
Legislative environment	3	2	3.3
Human resource development	4	4	6.7
Planning, design and development	1	1	1.6
Feasibility studies	4	4	6.7
Approach to integrate E-services into available ICT infrastructure	5	5	8.4
Others	24	23 (19 «None»)	39 (32.2 «None»)

Very few countries responded that there were ITU projects for providing guidance in e-services deployment in their countries.

ITU Pilot Projects
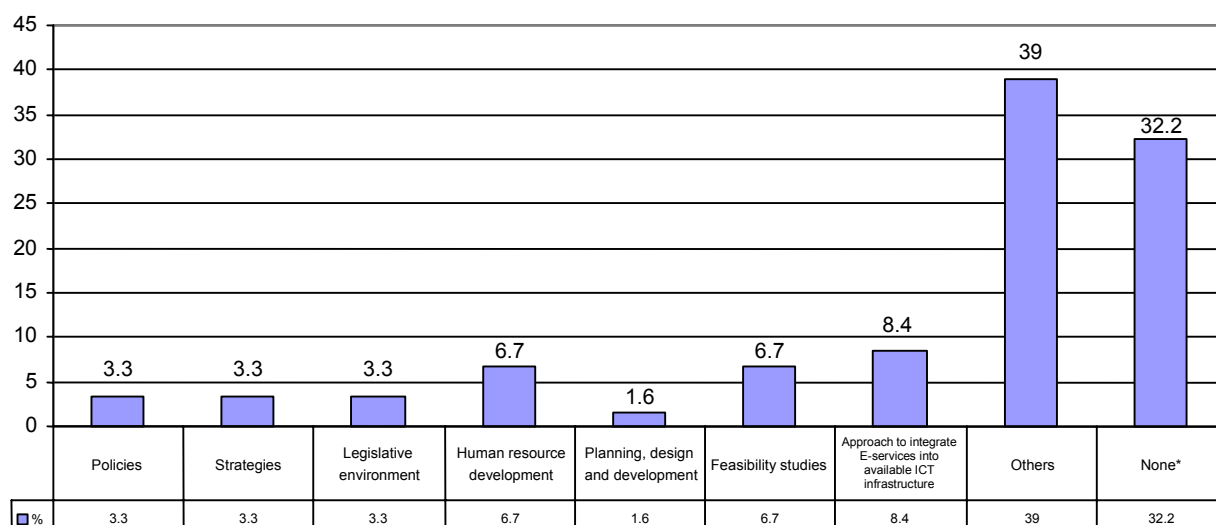
	Policies	Strategies	Legislative environment	Human resource development	Planning, design and development	Feasibility studies	Approach to integrate E-services into available ICT infrastructure	Others	None*
%	3.3	3.3	3.3	6.7	1.6	6.7	8.4	39	32.2

Question 12: Are there any difficulties in your country in establishing partnership in E-services application between public and private sectors, if "Yes" please elaborate.

Answers	Answers	Countries	Countries %
Yes	23	19	32.2
No	35	32	54.2

Apparently, the majority of the countries do not have serious difficulties in establishing partnerships in E-Services. For the countries that responded yes to this Question, there were very many different reasons why they had problems in establishing partnerships in E-services. Other serious difficulties cited included: lack of open standards, problem in system integration, lack of business models; different levels of preparedness between private and public business; legislative obstacles, difficulties in outsourcing some e-government applications to private sector and the poor coordination of activities programmes between public & private sectors.

Difficulties in establishing partnership

	Yes	No
%	32.2	54.2
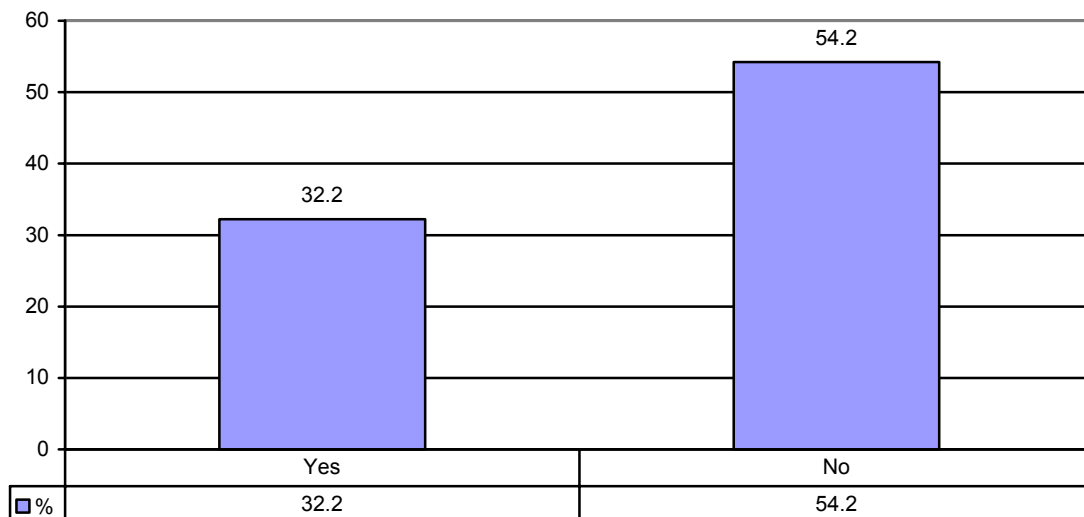
Question 13: Barriers for women to the full use of E-services:

Barriers	Replies	Countries	Countries %
Lack of awareness	29	27	45.7
Illiteracy	13	11	18.6
Computer illiteracy	35	30	50.8
Language barrier	21	18	30.5
Financial	25	22	37.2
Social barriers	21	17	28.8
Others	11	11	18.6

Computer illiteracy ranks high as the main barrier for women in the use of e-services. Funding activities to mainstream gender into e-services deployment and use is another important challenge to be addressed. Four countries responded that there were no barriers for women to fully use e-services.

Barriers for women

	Lack of awareness	Illiteracy	Computer illiteracy	language barrier	Financial	Social barriers	Others
%	45.7	18.6	50.8	30.5	37.2	28.8	18.6
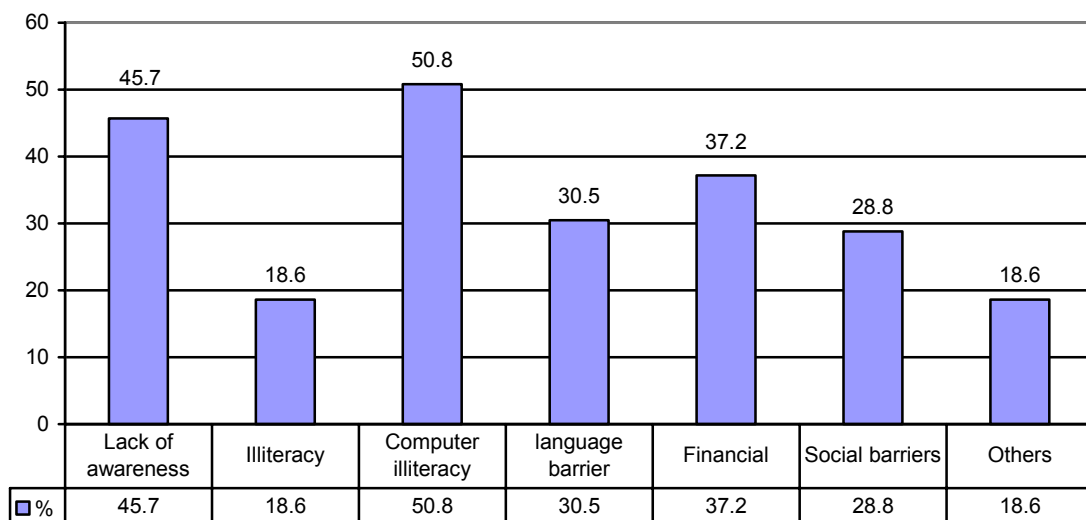
Question 14: Are there any E-education programmes for women in your country?

Programmes	Replies	Countries	Countries %
Working Women	5	3	5
Housewives	4	4	6,7
Youth	9	9	15,2
None	39	34	57,6

The majority of countries responded that there were no e-education programmes in their countries. Very few had specific Youth programmes and even fewer had programmes for housewives and working women.

E-education programmes for women
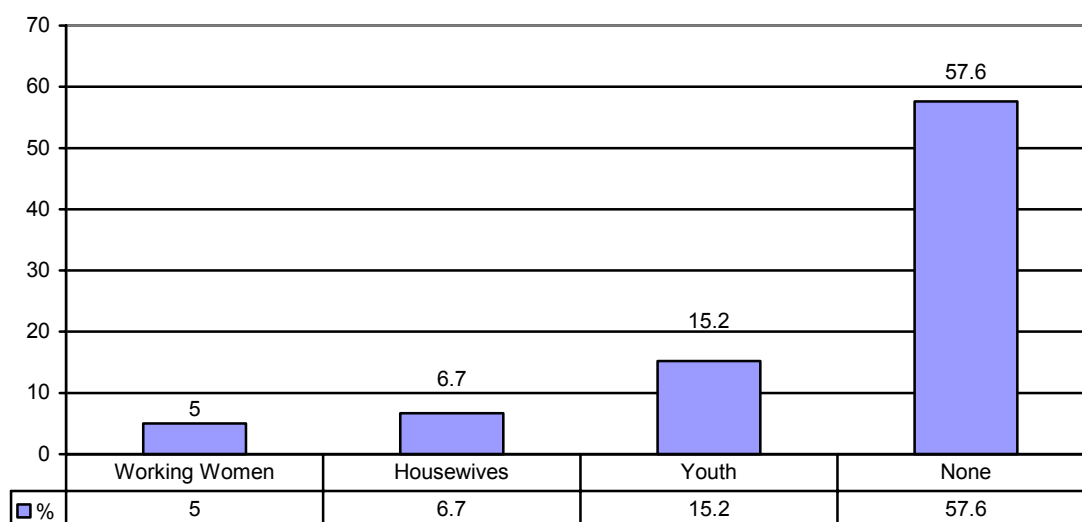
	Working Women	Housewives	Youth	None
%	5	6.7	15.2	57.6

Question 15: Are there any ITU programmes in your country to overcome barriers interfering with women's participation in the E-world?

Answers	Replies	Countries	Countries %
Yes	4	2	3.3
No	48	44	74.5

About three quarters of the countries responded that there were no ITU programmes in their countries to address barriers for women's participation in the e-world. Bahrain and Cameroon however, responded that ITU had programmes to address the challenges faced by women in participation in the e-world.

ITU programmes for women

	Yes	No
%	3.3	74.5
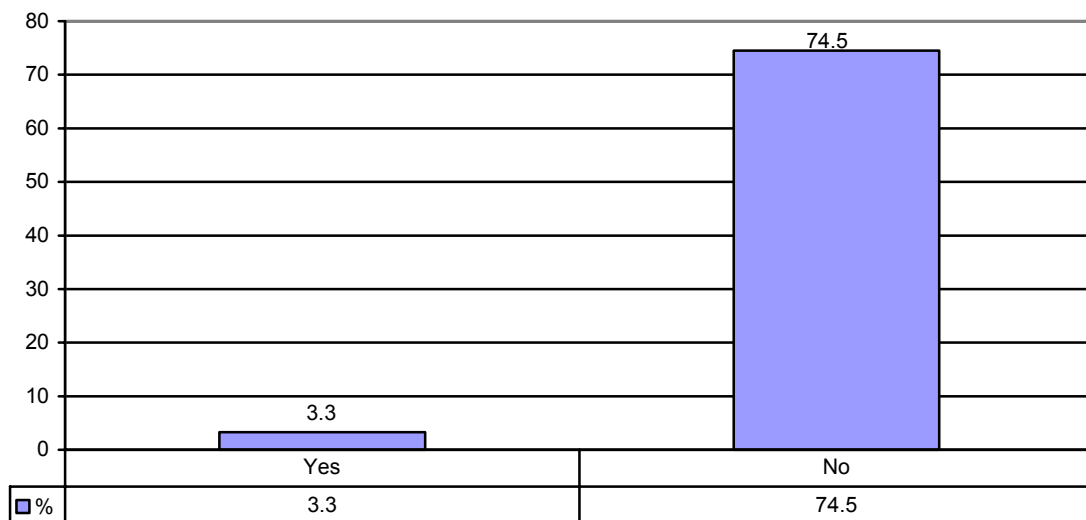
Annex 1
(to Annex 4)

Country Information (sorted by region)

Country	ITU Region	Country Group
Benin	Africa	LDC
Burkina Faso	Africa	LDC
Cameroon	Africa	Developing/Low income
Eritrea	Africa	LDC
Malawi	Africa	LDC
Mauritius, Republic of	Africa	Developing/Low income
Namibia	Africa	Developing/Low income
Niger	Africa	LDC
Seychelles	Africa	Developing/Low income
South Africa	Africa	Developing/Low income
Swaziland	Africa	Developing/Low income
Zimbabwe	Africa	Developing/Low income
Bolivia	Americas	Developing/Low income
Canada	Americas	Developed/High income
Colombia	Americas	Developing/Low income
Costa Rica	Americas	Developing/Low income
El Salvador	Americas	Developing/Low income
Grenada	Americas	Developing/Low income
Guyana	Americas	Developing/Low income
Mexico	Americas	Developing/Low income
Nicaragua	Americas	Developing/Low income
Peru	Americas	Developing/Low income
Algeria	Arab	Developing/Low income
Bahrain	Arab	Developing/Low income
Djibouti	Arab	LDC
Egypt	Arab	Developing/Low income
Jordan	Arab	Developing/Low income
Kuwait	Arab	Developed/High income

Country	ITU Region	Country Group
Lebanon	Arab	Developing/Low income
Morocco	Arab	Developing/Low income
Oman	Arab	Developing/Low income
Qatar	Arab	Developing/Low income
Saudi Arabia	Arab	Developing/Low income
Sudan	Arab	LDC
Syria	Arab	Developing/Low income
United Arab Emirates	Arab	Developed/High income
French Polynesia	Asia & Pacific	Developing/Low income
Japan	Asia & Pacific	Developed/High income
Myanmar, The Union of	Asia & Pacific	LDC
Pakistan	Asia & Pacific	Developing/Low income
Thailand	Asia & Pacific	Developing/Low income
Albania	Europe & CIS	Transition Economy
Armenia, Republic of	Europe & CIS	Transition Economy
Belarus	Europe & CIS	Transition Economy
Belgium	Europe & CIS	Developed/High income
Czech Republic	Europe & CIS	Transition Economy
Finland	Europe & CIS	Developed/High income
Greece	Europe & CIS	Developed/High income
Hungary	Europe & CIS	Transition Economy
Lithuania	Europe & CIS	Transition Economy
Moldova	Europe & CIS	Transition Economy
Norway	Europe & CIS	Developed/High income
Poland	Europe & CIS	Transition Economy
Portugal	Europe & CIS	Developed/High income
Slovak Republic	Europe & CIS	Transition Economy
Spain	Europe & CIS	Developed/High income
Sweden	Europe & CIS	Developed/High income
Turkey	Europe & CIS	Developed/High income
Ukraine	Europe & CIS	Transition Economy

Annex 5

Analysis of the replies of French speaking countries

1   General situation

As stated in the report, the situation, or state of advancement, of e-commerce depends on whether the country in question is in the North or South. Efforts have, it is true, been made in terms of infrastructure, capacity-building and legislation, but the fact has to be faced that greater efforts are essential in order to narrow the digital divide.

2   Conclusions/proposals

In the light of this alarming situation, it is important to start by classifying countries, according to their level of development into the following categories:

1)   developed countries,

2)   countries in transition or developing countries,

3)   least developed countries,

4)   highly indebted poor countries.

Using that classification, a module could be developed and adapted for each category.

In poor countries, moreover, infrastructure generally constitutes a major handicap and must be considered a priority. Other handicaps are ignorance (which is related to custom and is gradually being dispelled by modernization, except among women) and lack of skills.

In terms of proposals, it would be a good idea:

1)   To prepare modules adapted to each category of country.

2)   To promote cooperation among poor countries under the supervision of ITU.

3)   To promote pilot projects for women.

4)   To promote partnerships between the public and private sectors.

5)   To initiate discussions with ITU Member States with a view to reducing duties on equipment.

6)   To promote universal access or subsidize the universal service fund.

7)   To set up a high-level team for each category of country. That team would receive support from ITU technicians and would meet regularly in Geneva to explore ways and means of ensuring development, since in our countries it is often difficult to reconcile service work and external work.

ANALYSIS OF REPLIES TO THE QUESTIONNAIRE

1   Online services (e-services)

In most of the countries that replied to the questionnaire, e-commerce seems to be the service most commonly offered online, followed by e-government and e-education. In poor countries, however, e-education seems to be more widespread than the other e-services. This is quite logical in that education is the basis of sustainable development and contributes to the eradication of poverty. Progress in e-governance is held up by bureaucratic problems.

2   The difficulties

In poor countries, the development of e-services is checked by the following factors, listed in order of importance:

1)   lack of infrastructure and financial means;

2)   lack of highly skilled technicians;

3)   ignorance;

4)   absence of a suitable regulatory framework.

3   ITU-D activities

This area is covered by ONATEL-BURKINA. Mr Wema will provide details.

4   The situation of women

The situation of women is closely related to custom, because in poor countries women do not always have the right to education. With modernization, however, they are starting to throw off that yoke and to participate, little by little, in the development of their country.

5   Conclusion/proposals

Since not all countries have the same problems in implementing e-services, they should be categorized as follows:

1)   highly indebted poor countries;

2)   least developed countries;

3)   developing countries;

4)   developed countries.

Once categorized, specifications can be drawn up with a view to meeting the needs of each group. ITU can designate countries to head groups and promote exchanges within and among groups.

So much work needs to be done to bridge the digital divide between the countries of the North and South that groups of highly skilled technicians should meet in intensive working sessions. To that end, ITU should launch periodic meetings between technicians in Geneva or elsewhere in order to draw up detailed specifications for each category of country, bearing in mind the great difficulty of reconciling one's day-to-day work and other external tasks, for social, private or even employer-related reasons. Work outside the customary employment framework is beneficial in terms of enhanced efficiency and profitability. Therefore, to promote e-services it would be best to emphasize the following points, listed by order of importance:

1)   creation of pilot projects tailored to the countries;

2)   introduction of specific infrastructure;

3)   capacity-building;

4)   elaboration of legal frameworks.

5)   financial support.

Women are taken into consideration in Nos. 1), 2) and 3).

Annex 6

Analysis of the replies of Spanish speaking countries

After revising the answers of:

•   Bolivia

•   Colombia

•   Costa Rica

•   El Salvador

•   Mexico

•   Nicaragua

•   Peru

•   Spain

The following statements were reached:

In order to be able to promote E-commerce in Latin America, it is necessary reduce the digital gap by the means of the development of new ways of connectivity that are affordable to low income population, as well as training in the information and communication technologies (ICTs).

We feel is necessary to create incentives for the sector involved in the development of the e-services; one of many ways could be the reduction of taxes in relation to the equivalent service. Doing so would promote the development of more efficient forms of business and promote the demand of new electronic services on behalf of users.

At the moment, there is no perfect model to promote the development of ICT's that is efficient for all countries, due to the diversity of conditions in each particular country.

In their great majority, it is necessary to promote the upgrade of telecommunications infrastructures.

It's necessary to promote the development of content in Spanish, in order to promote and create incentives to the use of Internet in Latin America and as a consequence the use of e-services.

Encourage the creation of secure content; this would help to create trust in users having as a direct consequence the use of other electronic services by Latin Americans.

There is no discrimination toward women in relation to their participation in the development of the electronic services in all the countries in study.

In the very particular case of the Dominican Republic, our country has the Telecommunications Development Fund (FDT). The resources of the FDT come part of the Contribution to the Development of Telecommunications (CDT) that is the 2% that end-users contribute in their invoices from telecommunications public services (ISP's, mobile, phone[4] and cable companies).

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[4]   As of Today, Phone, mobile and Internet services are provided by the same company. These services are not unbundled.

These resources are exclusively reserved to finance projects in rural and urban areas of low revenue or of social interest, that promote the universal service and the development of the telecommunication continuing the guidelines of the social politics on Universal Service that dictates INDOTEL.

Upon assigning funds in order to finance specific telecommunications development projects, the FDT pursues:

a)   Contribute to the economic development and to the social well-being in the whole country.

b)   Promote the technological innovation in the telecommunication sector.

c)   Promote the competition in the telecommunication market in the Dominican Republic.

d)   Establish self-sustainable services, with an orientation of market, operations and business that will continue enlarging the access to the communications by initiative of the sector.

At the moment we could highlight 4 big projects that are being financed through the Telecommunications Development Fund.

Rural Telephony

This project contemplate the installation of at least a public telephone, at affordable prices, that is able to complete incoming and outgoing, national and international calls, in those places with a population greater than 300 inhabitants, where it previous has been proven that doesn't exist market intention of satisfying the demand of services of basic telephony in the immediate future.

Tele-Education

WAN component
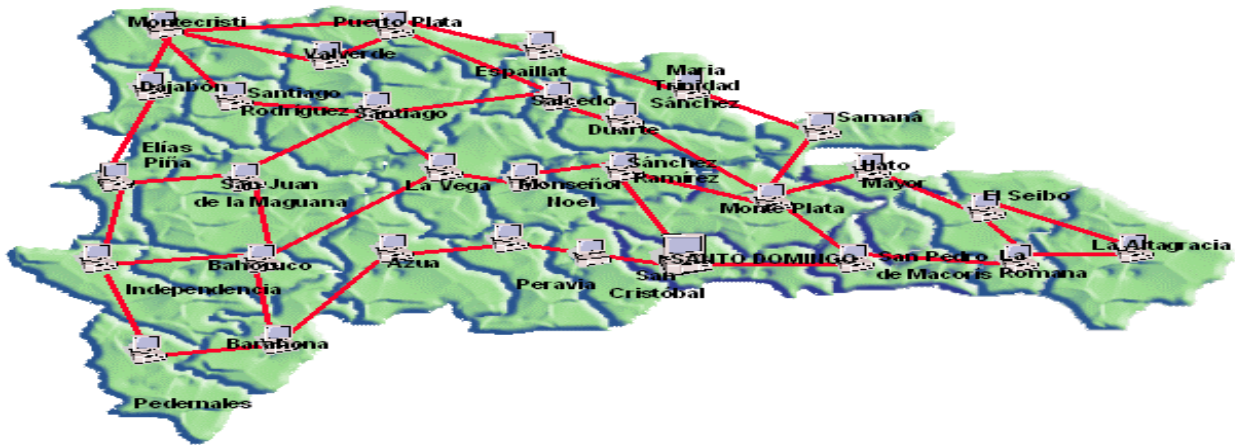
Consists of the interconnection in a national network (WAN or Wide Area Network) of the Regional Office, Educational Districts, Computers Laboratories at the public Schools of the Department of Education, which will work like HEADQUARTERS, in a unique infrastructure that will allow the educational personnel, office workers and students share information internally, access to the portal of the SEE and to the INTERNET.

Educational Portal component

This project consists in the development of a portal containing educational content that teachers, students and all the members of the educational community will have access to the whole digital material available.

Tele-Medicine

Radio communication component

The main objective of this component is saving lives. The Radio communication will guarantee an effective improvement and on time in the quality of the services of health that the State Secretariat of health (SESPAS) offer to the people that live in the most remote places of the north region.
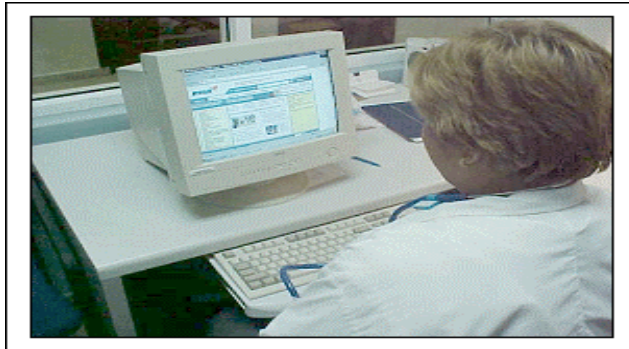
Videoconference component

(Videoconference room at Hospital Regional Universitario José Maria Cabral & Báez at Santiago City)

The objective is to support the training of doctors working in Public Health. It consists in the design and implementation of a videoconference room with the most technological advances in transmission of data and images. This room will be located in Hospital Cabral & Báez at Santiago City, This videoconference room can be linked simultaneously with specialized centers, national or international. There will be another four rooms in the regional hospitals of La Vega, San Francisco de Macorís, Mao, Puerto Plata Cities.

Access to Internet component

In addition to the 5 centers that they will be provided with rooms of Videoconference, another 22 hospitals will be equipped with computers and access to Internet for a total of 27 points that will facilitate them access to the updated medical information, which will facilitate the training of doctors and also, will improve the references and counter-references system for cases and patient.

Community's Tele-Centers

This project contemplates the installation of 15 community's tele-centers in several counties of the country. The first phase contemplates 7 units and the second phase the 8 remaining. In these tele-centers the users will have: Access to information and communication technologies, access to the Internet, long distance calling and also shipping and reception of faxes, all services at affordable prices.

Annex 7

Questionnaire regarding Question 17/2:
"Progress in ITU activities for E-commerce"

1) **Which E-services have already been introduced in your country?**

- ☐ E-government
- ☐ E-business
- ☐ E-education
- ☐ Others _____
- ☐ No E-services

2) **Which E-services are of more importance to be implemented today in your country although the process has not started?**

- ☐ E-government
- ☐ E-business
- ☐ E-education
- ☐ Others _____
- ☐ No E-services

3) **Which E-services are planned to be introduced in your country within the next five years?**

- ☐ E-government
- ☐ E-business
- ☐ E-education
- ☐ Others _____
- ☐ No E-services

4) **The problems that can interfere with the introduction of E-services in your country?**

- ☐ Infrastructure
- ☐ Regulatory aspects
- ☐ Awareness
- ☐ Technical expertise
- ☐ Others _____

5) **In your opinion, how can the ITU help your country solve those problems?**

☐ Pilot Programs

☐ Infrastructure

☐ Financial support

☐ Technical expertise

☐ Human resource development

☐ Others _____

6) **The problems that interfere with implementing E-government in your country?**

☐ Lack of awareness

☐ Government Bureaucracy

☐ Availability of documents in digital form

☐ Computer illiteracy

☐ Others _____

7) **The problems encountered in implementing E-transaction/banking in your country:**

☐ Information and network security

☐ Infrastructure

☐ Banking system

☐ Others _____

8) **The problems encountered in implementing E-education in your country:**

☐ Human resource development

☐ Computer cost and availability

☐ Infrastructure

☐ Curriculum in E-based format

☐ Others _____

9) **The problems encountered in implementing E-business in your country:**

☐ Awareness at executive levels

☐ Infrastructure

☐ Readiness of companies and business organization

☐ Legal framework

☐ Others _____

10)   **Are there any ITU programmes concerned with any of the following E-activities in your country:**

☐   E-government

☐   E-business

☐   E-education

☐   None

11)   **Are there any ITU pilot projects for providing guidance for E-services deployment in your country through:**

☐   Policies

☐   Strategies

☐   Legislative environment

☐   Human resource development

☐   Planning, design and development

☐   Feasibility studies

☐   Approach to integrate E-services into available ICT infrastructure

☐   Others _____

12)   **Are there any difficulties in your country in establishing partnership in E-services application between public and private sectors, if "Yes" please elaborate.**

☐ Yes   ☐ No

_____

_____

_____

13)   **Barriers for women to the full use of E-services:**

☐   Lack of awareness

☐   Illiteracy

☐   Computer illiteracy

☐   Language barrier

☐   Financial

☐   Social barriers

☐   Others _____

14)   Are there any E-education programmes for women in your country:

☐   Working Women

☐   Housewives

☐   Youth

☐   None

15)   Are there any ITU programmes in your country to overcome barriers interfering with women's participation in the E-world?

☐ Yes   ☐ No

16)   In your opinion what is the most vital factor (s) affecting E-activities in your country?

_____

_____

_____

17)   Mention if there is a model of E-services projects in your country that you feel could be considered as a case study for other countries?

_____

_____

_____

Notes and remarks:

_____

_____

_____

_____

_____