Document of
The World Bank

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Report No: 41641-MX

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF

US$80 MILLION

TO THE

UNITED MEXICAN STATES

FOR AN

INFORMATION TECHNOLOGY (IT) INDUSTRY DEVELOPMENT PROJECT

June 12, 2008

Global Information and Communications Technology Department, Policy Division
Colombia and Mexico Country Management Unit
Latin America and the Caribbean Regional Office

CURRENCY EQUIVALENTS

(Exchange Rate Effective June 4, 2008)

Currency Unit	=	Mexican Peso
Mexican $10.33	=	US$1

FISCAL YEAR

January 1 – December 30

ABBREVIATIONS AND ACRONYMS

AMITI	Asociación Mexicana de la Industria de las Tecnologías de la Información
AMIPCI	Asociación Mexicana de Internet
APL	Adaptable Program Loan
BPO	Business Process Outsourcing
CAGR	Compounded Average Growth Rate
CANIETI	Cámara Nacional de la Industria Electrónica de Telecomunicaciones e Informática
CEO	Chief Executive Officer
CMMI	Capability Maturity Model Integration
COINS	Co-innovation Networks
CONACYT	Consejo Nacional de Ciencia y Tecnología
COPC	Customer Operation Center
CPS	Country Partnership Strategy
CRM	Customer Relationship Management
DGCIED	Dirección General de Comercio Interior y Economía Digital
DPL	Development Policy Loan
EIA	Environmental Impact Assessment
ESMF	Environmental and Social Management Framework
FDI	Foreign Direct Investment
FI	Financial intermediary
FIT	Financing of IT accreditation program
FM	Financial Management
FMA	Financial Management Assessment
FMTAAS	Funding Mechanism for Technical Assistance and Advisory Services
GDP	Gross Domestic Product
GOM	Government of Mexico
ICB	International Competitive Bidding
ICC	Integration Competency Center
ICT	Information and Communication Technologies
IP	Intellectual Property
IPO	Initial Public Offering
IT	Information Technology
ITES	Information Technology Enabled Services
KPO	Knowledge Process Outsourcing
LAC	Latin America and Caribbean
MexicoFIRST	México Federal Institute for Remote Services and Technology

MIT	Massachusetts Institute of Technology
MNCs	Multinational Corporations
NAFIN	Nacional Financiera S.N.C.
NASSCOM	National Association of Software and Services Companies
NCB	National Competitive Bidding
NGO	Non-governmental Organization
OECD	Organization for Economic Cooperation and Development
OIC	Órgano Interno de Control
OM	Operations Manual
PCBA	Printed Circuit Board Assembly
PDO	Project Development Objective
PMI	Project Management Institute
PMP	Project Management Professional
PND	Plan Nacional de Desarrollo (National Development Plan)
PROSOFT	Development Program for the Software Industry
PPPs	Public Private Partnerships
PSDC	The Penang Skills Development Center
PSP	Personal Software Process
RAP	Resettlement Action Plan
R&D	Research & Development
SE	Secretaria de Economia
SEI	Software Engineering Institute
SEP	Secretaría de Educación Pública
SEMARNAT	Secretaría del Medio Ambiente y Recursos Naturales
SHCP	Secretaría de Hacienda y Crédito Público
SIGEFI	Sistema de Gestión Financiera
SIL	Specific Investment Loan
SMEs	Small and Medium Enterprises
SOA	Service Oriented Architecture
SOFOL	Sociedad Financiera de Objeto Limitado
TA	Technical Assistance
TESDA	Technical Education and Skills Development Authority
TESOFE	Tesorería Federal
UNAM	Universidad Nacional Autónoma de México
ZSP	Zhongguancun Science Park

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MEXICO
Information Technology (IT) Industry Development

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MEXICO

INFORMATION TECHNOLOGY (IT) INDUSTRY DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

LATIN AMERICA AND THE CARIBBEAN

CITPO

Date: June 12, 2008 Country Director: Axel van Trotsenburg Sector Manager/Director: Philippe Dongier Project ID: P106589 Lending Instrument: Specific Investment Loan	Team Leader: Eloy Eduardo Vidal Sectors: Information and Communications Technology (100%) Environmental screening category: Partial Assessment

Project Financing Data

[X] Loan [ ] Credit [ ] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Total Bank financing (US$m.): 80.0
Proposed terms: Commitment-linked bullet repayment with a 10-year grace period fixed spread Loan denominated in US dollars.

Financing Plan (US$m)

Source	Local	Foreign	Total
International Bank for Reconstruction and Development	79.8	0.2	80.0

Borrower:
United Mexican States
Secretaría de Hacienda y Crédito Publico
Palacio Nacional
Primer Patio Central Piso 4
Colonia Centro
D.F. México 06000
Tel: +(52) 55 3688-1438
Responsible Agency:
Ministry of Economy
Alfonso Reyes No. 30
Col. Hipódromo Condesa
México
Tel: +(52) 55 5729-9221

Estimated disbursements (Bank FY/US$m)

FY	2008	2009	2010	2011	2012	2013
Annual	2.15	15.58	18.13	18.66	17.12	8.36

Cumulative	2.15	17.74	35.86	54.52	71.65	80.00

Project implementation period: Start August 4, 2008 End: June 30, 2013
Expected effectiveness date: August 4, 2008
Expected closing date: June 30, 2013

Does the project depart from the CAS in content or other significant respects? ***Ref. PAD I. A***	[ ]Yes [X] No
Does the project require any exceptions from Bank policies? ***Ref. PAD IV. G*** Have these been approved by Bank management? Is approval for any policy exception sought from the Board?	[ ]Yes [X] No [ ]Yes [ ] No [ ]Yes [X] No
Does the project include any critical risks rated "substantial" or "high"? ***Ref. PAD III. D.***	[X]Yes [ ] No
Does the project meet the Regional criteria for readiness for implementation? ***Ref. PAD IV.G***	[X]Yes [ ] No

Project development objective ***Ref. PAD II.B, Technical Annex 3***
The objective of the Project is to assist the Government of Mexico to implement an alternative strategy for PROSOFT to foster the creation of jobs in Mexican IT Companies by improving their competitiveness and efficiency through access to: (a) a larger supply of trained personnel; (b) technologies, quality standards and global marketing networks of multinational corporations; and (c) private debt finance.

Project description *[one-sentence summary of each component]* ***Ref. PAD II.C, Technical Annex 4***
The project is designed in response to a strong demand from State Governments, and strongly reinforces previous efforts made by the Secretaría de Economía through the PROSOFT program. The project would have five components:

a. Human Skills Development ($38.3 million)
This component would help the IT/ITES industry to ramp up and compete globally by increasing the quantity and the quality of skilled manpower.

b. Strengthening of IT Clusters and Selected State Agencies ($9.0 million)
This component would help existing IT Clusters and associations in promising States having high potential in the IT/ITES sector.

c. Financing of the IT Industry ($2.9 million)
This component would finance technical assistance to create and implement an accreditation program to improve IT companies' access to finance.

d. Supporting Infrastructure ($10.1 million)
This component would finance: (a) the design and bid specifications preparation; and (b) the public sector investment in PPPs to build and operate the IT Parks.

e. Outsourcing of Government Services ($2.7 million)
This component would finance the execution of a handful of sub-projects at the Federal, State and Municipal levels using innovative outsourcing and PPP approaches. It would also support the creation of an Integration Competency Center and the setting up of cost-

effective Technology Escrow arrangements to improve the prospects of SMEs in securing business within and outside of the government.

f. Strengthening of the Legal and Regulatory framework and Institutions ($6.1 million)
This component would include: (1) technical assistance to draft changes and/or improvements to the legal and regulatory framework; (2) awareness raising campaigns for specific improvements of sector laws and regulations such as the "Sellos de Confianza" program; (3) tailor-made professional training for legislators, judges, public servants, law enforcement officers, and technical experts in trials; (4) creation of a center for disputes settlement within the Mexican Software Consortium; and (5) the creation of a local Masters program in IT Law, training professors of Law on IT issues, regulations and enforcement best practices.

g. PROSOFT Strengthening and Project Management ($3.6 million)
This component would include: (1) the creation of an International Consultative Commission in PROSOFT; and (2) support to the SE to manage, implement, monitor and evaluate the results of the Project.

Which safeguard policies are triggered, if any? ***Ref. PADIV.F, Technical Annex 10***

The Project has triggered both the OP 4.01 and OP 4.12 which required the preparation of an environmental assessment and resettlement policy framework to comply with the World Bank safeguard policies. Under the following Project, an Environmental and Social Management Framework (ESMF) was prepared and found acceptable to the Bank, since the exact location, design, size or extent of the subproject(s) to be financed under the Project has not yet been determined.

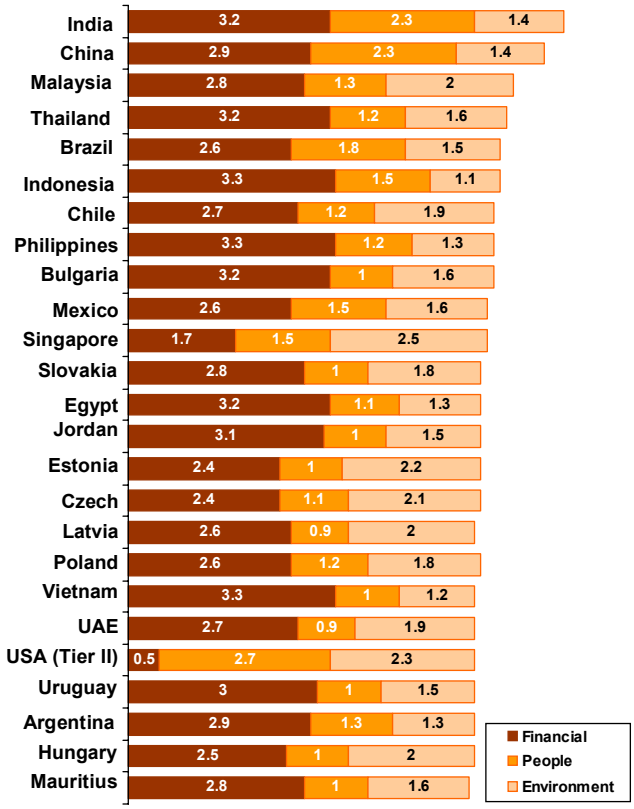
Significant, non-standard conditions**:** ***(Ref. PAD III E.)***
Board presentation:
None
Loan/credit effectiveness:
For effectiveness, execution of the "*Contrato de Mandato*".
Covenants applicable to project implementation: None

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and sector issues

1. Over the last two decades, México implemented impressive reforms that led to a more open economic and political system and a better integration within the world economy. Currently, México belongs to the OECD and has achieved investment grade. However, México still faces substantial development challenges. The government of President Felipe Calderon has outlined a National Development Plan for the years 2007 – 2012, which is based on five strategic pillars, including competitiveness, security and the rule of law, effective democracy, equality of opportunity and environmental sustainability. The new (CPS) Country Partnership Strategy endorsed by the Board in April, 2008[1] fully supports the National Development Plan with targeted interventions through streamlined lending and an enhanced program of analytical and advisory services.

Figure 1: Global Service Location Index – 2007



Source: AT Kearney, 2007

2. In this context, the offshoring of global services offers a distinct opportunity for México to improve competitiveness and generate employment. (Pillar No. 2). According to one estimate, the addressable market for global offshoring of IT services and IT enabled services (ITES) was roughly US$300 billion in 2005, of which only about ten percent had been realized[2]. While the off-shore IT industry grew at 21% annually from 2001 to 2005, the offshore ITES industry grew at an impressive 49%. India, by far the biggest player in this field, generated export revenues of US$31.4 billion in FY2007, and employed 1.6 million people in the IT/ITES industry. According to some

[1] "Country Partnership Strategy for the United Mexican States for the period FY2008-2013", Report No 42846-MX, March 4, 2008.

[2] IT services include application development, software design, systems integration, IT consulting, R&D services, hardware and software maintenance, network administration and help desk services. IT enabled services are services that can be remotely delivered using ICTs, such as call centers, data processing, reservation and information services, accounting services, human resource management, sales contact centers, medical transcription services, tele-marketing, etc. Unless specified otherwise, references to IT in this document include both IT and IT enabled services.

estimates[3], each job in the IT/ITES sector creates 3 to 4 jobs in sectors such as transportation, construction, health, entertainment and others.

3. With the right policy mix and a clear Government commitment, the IT/ITES sector can be developed in a relatively short time. For example, a focused initiative in the state of Andhra Pradesh in India resulted in IT/ITES exports increasing from US$0.45 billion to US$4.7 billion (Rs.185.82 billion) between 2001 and 2007.

4. Due to its geographical proximity to, and its location in the same time zone as the USA, its large labor pool, presence of many multinational companies, the North American Free Trade Agreement, and cultural affinity with the U.S.A., México has a distinct opportunity to develop as a leading hub for IT/ITES in Latin America[4]. According to the *AT Kearney Global Services Location Index 2007*[5] (Figure 1) México ranked 10th globally amongst the top 50 off-shoring destinations for IT/ITES (third in Latin America).

5. However, Mexican firms do not use IT extensively in their business processes: the IT industry in México, with about 80,000 employees, accounts for only 3.1% of the GDP, compared to 5.3% in Latin America, 7.1% in high-income countries and 8.8% in the USA[6]. IT is an essential ingredient in raising productivity in firms and improving the competitiveness of the Mexican firms. In addition, Governments (Federal, State and Local) represent only 12% of the IT Sector revenues, because most of their IT systems and services are developed in house.

6. The Mexican Government launched the PROSOFT program in 2004 to promote growth and create jobs in the IT/ITES sector through 7 initiatives, as illustrated in Figure 3. One of them, the PROSOFT Fund provides resources to the IT Industry. As of December 2006, it has already provided around US$70 million for 580 projects including company certification, staff training, technical assistance and procurement of equipment. Other PROSOFT components established a guarantee fund for companies, developed a Mexican certification standard and supported the development of a national level cluster to foster linkages between companies, the federal Government and the academia. PROSOFT also promotes the México IT Brand, and has been praised by several State authorities throughout the country. The program has managed to successfully implement a complex yet comprehensive strategy and is currently managing a federal fund (the PROSOFT fund) aimed at public-private partnerships at the State level (upon request from the private sector), to foster the development of the industry. Every US$1.00 that the Fund invests in IT projects leverages approximately US$1.61 from the private sector, US$0.50 from State governments, and US$0.18 from other parties, including academia. In 2007,

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[3] NASSCOM – McKinsey Report 2005.

[4] See "Global Outsourcing Report 2005", Horasis and Going Global Ventures Inc. (Page 4, 8, 43); and "NASSCOM-McKinsey Report 2005" NASSCOM (page 163)

[5] The *AT Kearney Global Services Location Index* measures the Financial Structure, People and Skills Availability and Business Environment in countries around the World.

[6] "Information and Communication for Development", 2006, World Bank

the PROSOFT fund would disburse approximately US$42 million. Details can be seen in Annex 1.

7. However, PROSOFT has its limitations: (a) it is an annual program, and therefore it can support only short-term initiatives; (b) there is no guarantee as to its duration, as it depends on the approval of a new budget line every year; (c) it does not support all the investments needed: in particular, it does not support large infrastructure projects; (d) it does not assist the States in developing local capacity and leadership; (e) only a handful of States have obtained the larger share of the benefits from this program so far; and (f) it has limited funds for administration, promotion, monitoring and evaluation.

8. In order to improve PROSOFT to foster the development of the IT Industry, the Mexican Government (GoM) requested the Bank to carry out a study of the IT and ITES sectors in México. The Bank accordingly carried out a study on the "Development of an IT and ITES services industry in México" by engaging AT Kearney and using FMTAAS funds.

9. The study took a disaggregated view of the potential for developing the IT/ITES sector in different states of México. The study found that even though México ranks No. 10 in the world in terms of location attractiveness[7], there are significant disparities among Mexican States, as shown in Figure 2 below[8].

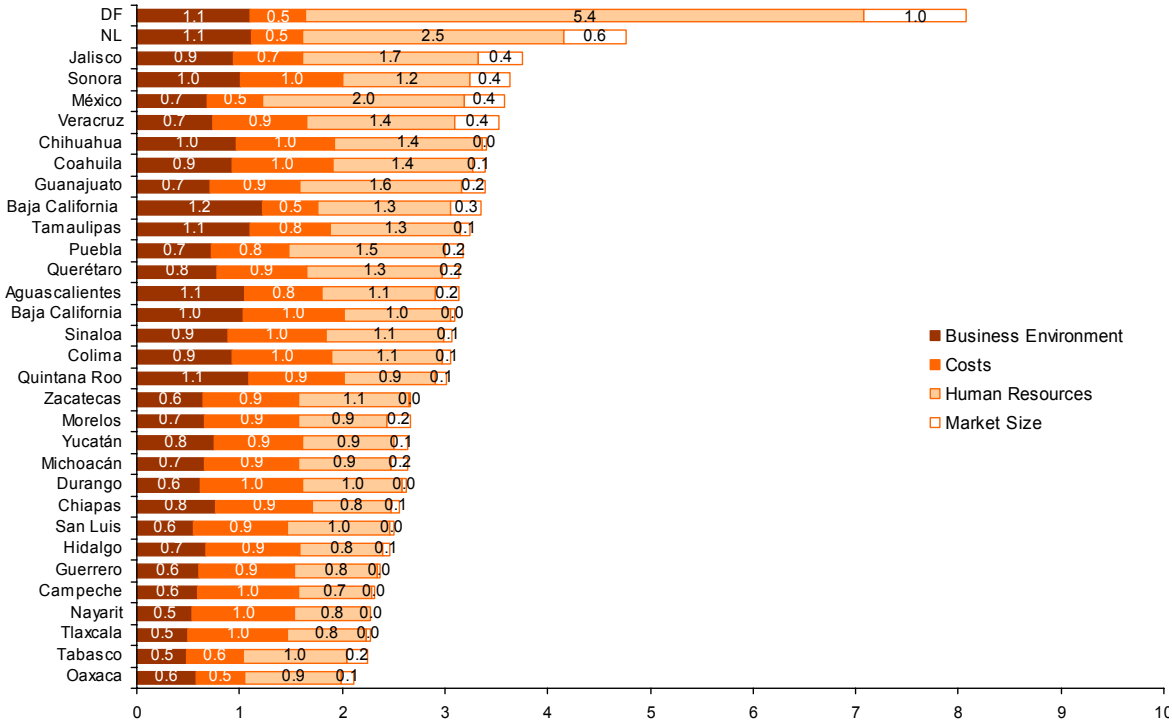
10. The study specifically analyzed opportunities to boost the current IT/ITES industry growth in México (Annex 1 has more details). While focusing on 5 states[9] of various sizes and income levels, the study found that many other states in México could potentially participate to a lesser or greater degree in the IT/ITES sector. While the strategy for Nuevo Leon or Jalisco could focus on advanced IT services to add high value to exports, the strategy for Zacatecas could be centered on entry level BPO. The key issues that would need to be addressed by the States as identified in the study included: (1) lack of qualified manpower, both in terms of quality and quantity; (2) weakness or absence of IT clusters at State level; (3) limited financing of IT/ITES companies; (4) lack of support infrastructure in the form of technology parks; (5) absence of the IT sector participation in Government services; and (6) weaknesses in the policy, legal and regulatory framework.

[7] India is No. 1, followed by China and Malaysia, note that Brazil is 5 and Chile 7.

[8] AT Kearney, Op. Cit. See Fig. A1.5 in Annex 1 for BPO ranking.

[9] Nuevo Leon and Jalisco are two large states with higher income, Queretaro and Coahuila are medium-size and income level, geographically close to Nuevo Leon and Jalisco, and Zacatecas, a poor state in the central part of the country.

Figure 2: Ranking of States for IT services



Source: AT Kearney, 2007

Sector Issues Identified

11. First, the Study found that adequate human resources in each specialized field, both in terms of quality and quantity, is absolutely key to achieving success in the IT/ITES sector. The World Economic Forum placed México in position 81 (out of 122) in the quality of its educational system[10]. In IT Education México faces several issues that need to be addressed:
- IT companies spend up to US$60,000 and take as much as 18 months to train each new engineer, mainly because of the absence of certain specialized courses and deficiencies in English language[11] skills.
- There is a shortage of high quality managers in small and medium size IT companies.
- There are not enough network and computer technicians (AS degree equivalent) and
- There are not enough English-speaking operators for call centers (details in Annex 4).

12. Second, there are wide disparities in the performance of states in promoting the IT sector. States that are successful in the IT/ITES sector show strong linkages between Industry, the Government and Academia termed "IT Clusters". These clusters effectively leverage the States' endowments (human resources, infrastructure, industries, etc). However, the A.T. Kearney study

[10] World Economic Forum and INSEAD "The Global Information Technology Report 2006-2007" by Soumitra Doutta, Irene Mia, Editors, 2007.

[11] Only a few Universities require students in IT careers to learn English language to graduate; public universities do not. Changing the program in public universities requires 4 years, a very long time for the dynamic IT Industry.

found that not all States had such Clusters, and that in some cases where they existed, they did not work effectively. Mexican companies lack linkages with multinational corporations to access technologies and global markets. Although there have been efforts to improve the quality processes in companies, still many software companies have not achieved certifications (for example CMMI).

13. Third, the IT industry lacks adequate financing. The IT industry in México, particularly the SME segment, faces greater financing constraints than other sectors, mainly due to the fact that IT companies cannot provide collateral. Moreover, the sector being new, the financial companies have limited information on it and perceive it as a high risk. The Investment Climate Assessment indicates that on average, external financing for working capital is 14.4 percent compared to 22.2 percent for enterprises in other services sectors. To address these gaps and facilitate ICT financing, the SE has developed a guarantee program (Ps. 64 million) in collaboration with NAFIN, a second-tier development Bank. The program helps enterprises develop a credit history and enhance their future financing prospects. The program was launched in late 2006 with the participation of one financial intermediary (FI), a Sociedad Financiera de Objeto Limitado (SOFOL). The portfolio performance has been very favorable, and the SE would like the program outreach to expand to other FIs and to cover more ICT companies.

14. Fourth, infrastructure like IT Parks needed by the IT Industry is generally not available in México, with few exceptions. IT Parks typically provide all the needed communications facilities and services and are usually located in urban areas where there is abundant labor force and universities that can provide training for their employees, and close to major airports.

15. Fifth, a recent study by Evalueserve[12] confirmed that Governments (Federal, State and Local) develop most of their IT systems and services in house and do not use the IT industry as much as in other countries. Experience in many countries has shown that the Government, being the largest user of IT Services, could promote the development of the IT Industry, and at the same time improve its efficiency and effectiveness by subcontracting these services, or outsourcing them to the private sector. This modality has the added benefit of increasing the transparency of the Governments, as Government processes, purchases and information are made available online for anyone to access. In an interesting development President Calderon issued an Austerity Decree in December of 2006 mandating federal government entities to purchase services as opposed to equipment, opening the door for Public Private Partnerships in the provision of E-Government services.

16. In general, Mexico possesses an established legal environment that allows public private participation and collaboration. This environment includes laws governing concessions and/or privatizations, clear processes for dispute resolution and the ability to enforce contracts, as well as lender remedies under bankruptcy and insolvency. Although most of Mexico's PPPs deal with

[12] "Country Assessment Report for Identifying Potential Public Private Partnerships in e-Government." Evalueserve, 2007. México ranked 56th globally and 7th in the LAC Region in the e-Services adoption index, even though the outlook of the Mexican Government towards e-Government is favorable.

infrastructure, the Mexican Government recognized the provision of services by the private sector. The so-called 'Project for the Supply of Service' model was introduced in Mexico as a means of achieving the objectives of sustainable development that are stated in the National Development Plan. Even though all procurement contracts require an internal governmental and budgetary approval, the PPPs must pass a specific and rigorous criteria mentioned under the Rules and the Guidelines, consisting mainly of a cost-benefit analysis at a profile level and at a pre-feasibility level. The process seeks to address and ensure that the PPP option is less costly to government than a regular procurement contract, funded through direct payment of capital expenditures in the federal budget. However, this regulation is complex and discourages civil servants from using PPPs for Government services.

17. Sixth, Mexico needs to modernize its comprehensive IT-ITES enabling regulatory and legal framework[13]. This conclusion is based on a Study that was commissioned by the Bank to identify and analyze obstacles posed by the current enabling policy legal and regulatory framework to the development of IT and IT Enabled Services (ITES) industries. The Government needs to raise awareness within public and private sectors, academia and civil society in order to facilitate general consensus and smooth approval process. Given the disparity or lack of regulations technical assistance from local and foreign experts should be sought in order to obtain high-skill input on regulatory reform issues ranging from trade barrier analysis to harmonization of electronic signature regulations. Simultaneously, Mexico needs to train its Judicial officers, legislators, trial experts, law enforcement functionaries, government officials and practitioners, in the regulatory treatment and legal interpretation of new technologies.

18. The Mexican Government jointly with the private sector and academia has pursued many valuable initiatives to foster internet security, build online trust, combat cybercrimes and raise awareness on piracy issues. Such initiatives along with new programs need to be granted continuous support along with other new initiatives such as special IP courts, or the creation of online dispute resolution mechanisms (more details in Annex 4).

19. Seventh, the government does not have an institutional mechanism to acquire knowledge on new industry developments and trends and to develop and discuss new policy initiatives to foster the IT industry in México and effectively compete in a globalized environment.

B. Rationale for Bank involvement

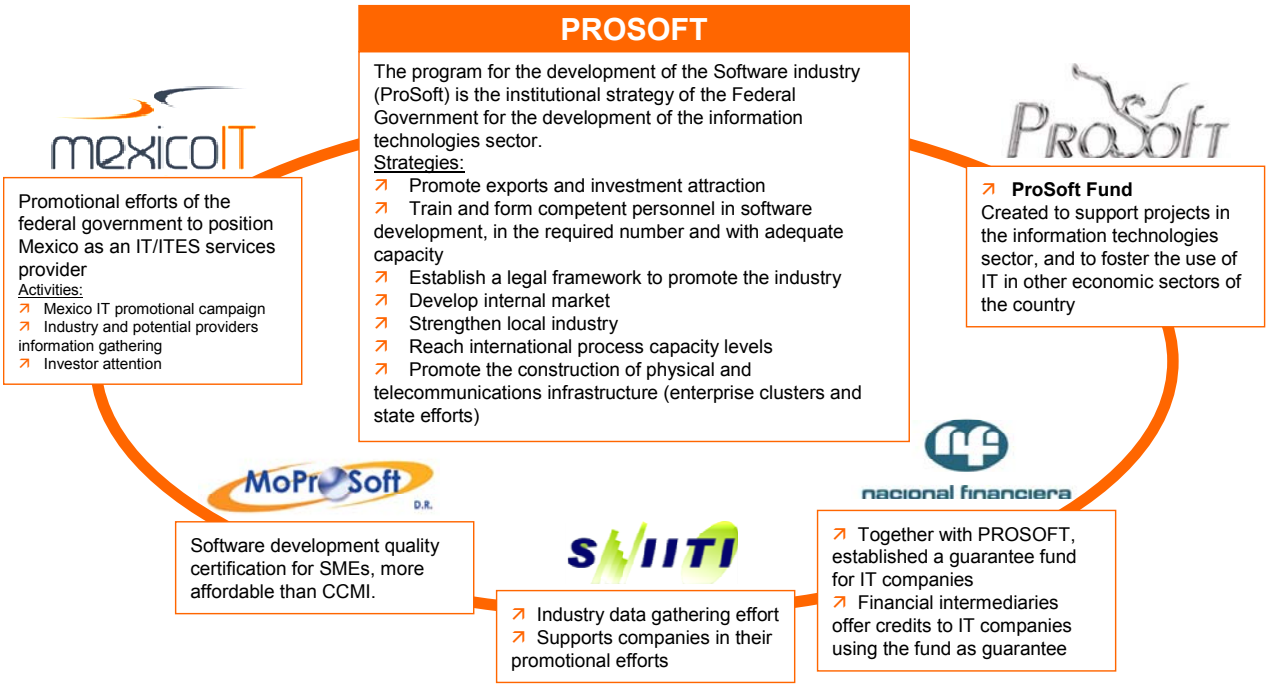
20. The Mexican Government has requested the Bank's support to help improve and expand PROSOFT in order to foster the development of the IT and ITES industries. Specifically, the Mexican Government strategy is to support the IT Industry growth in the short term, while reducing the subsidies to the Industry over the long term. The design of the present Project builds on the achievements of the PROSOFT program. The project would support PROSOFT to implement an alternative strategy to expand the number of jobs in the Industry from 80,000 to at

[13] Bendersky, Matias, "Legal and Regulatory Barriers in the Development of Information Technologies and Information Technology Enabled Services ("IT/ITES"), November 3, 2007

least 100,000, address several critical human skills deficits, link Mexican companies with multinational corporations, develop solutions for financing IT companies, and provide technical assistance to continuously monitor, evaluate and improve PROSOFT, among other things.

21. The Bank is particularly qualified to do this, thanks to the experience that its staff gathered in supporting similar initiatives in a number of countries including India, Russia, and Sri Lanka[14]. The development of the sector requires a multi-dimensional approach and the Bank has a wide range of expertise in relevant areas. Furthermore, the World Bank Group offers unique synergies, as it can bring to the table private sector financing through its IFC arm, and public funding through World Bank loans to the Government. Even though the proposed Project is small compared to the larger PROSOFT Program, the Mexican Government wishes to expand the initiatives that the Project would support in the medium term in order to catalyze a new and improved PROSOFT Program.

Figure 3. PROSOFT Program: Main Initiatives



Source: PROSOFT, AT Kearney, 2007

22. The Bank is already supporting the GoM through the "Innovation for Competitiveness Project" (I&C Project), which provides policy-related support to enhance innovation, finances CONACYT program to promote business innovation through the use of innovative technology, and funds scholarships for improving México's science and technology skill base. This Project and the proposed one are complementary and would mutually reinforce each other. The growth

[14] See section "D. Lessons Learned and Reflected in the Project Design" for detail explanation on the Bank's experience in each of the components of the Project.

of the IT/ITES sector under the ongoing I&C Project would open up new technological and business possibilities for innovation, which would in turn bring the benefits of using new technologies to Mexican companies trying to move up the value chain. The I & C project would also help prepare the ground for the growth (economic and in number) of businesses engaged in KPO (Knowledge Process Outsourcing) type of activities. Details are in Annex 2.

C. Higher level objectives to which the project contributes

23. The higher level objectives to which the Project contributes are:

a. Improvement of México's competitiveness in general, through the development of its IT Industry. IT services are crucial for the competitiveness of firms, individuals, and governments. By developing the IT industry, more and better IT products and services would be available to businesses, raising their productivity and increasing their prospects to compete in a global economy.

b. Creation of quality jobs. The IT Industry requires software engineers, network engineers, high quality call center operators, IT technicians, and managers. All of these are well paid jobs, compared with manufacturing and services entry jobs, in general. By increasing the quantity and quality of human resources in the IT Sector, more companies would come to México and existing companies would expand and create more IT jobs.

II. PROJECT DESCRIPTION

A. Lending instrument

24. The lending instrument would be the Specific Investment Loan (SIL). This was considered to be the most suitable instrument to support the development of the IT Industry, because it would give the GoM flexibility to support the Technical Assistance, Training and Infrastructure components as explained below.

B. Project development objective and key indicators

25. The objective of the Project is to assist the Government of Mexico to implement an alternative strategy for PROSOFT to foster the creation of jobs in Mexican IT Companies by improving their competitiveness and efficiency through access to: (a) a larger supply of trained personnel; (b) technologies, quality standards and global marketing networks of multinational corporations; and (c) private debt finance.

26. The Project would initially focus on States that have better potential to grow the IT industry. The success of these States is likely to have a strong demonstration effect, benefiting Mexico as a country and improving the competitiveness and efficiency of the Mexican economy and fostering the development of SMEs.

27. The following indicators would be used to monitor progress toward achieving the Project objective. SE would hire an independent firm to monitor the results and report progress every year:

- IT/ITES jobs created by the IT Industry as a result of training programs (jobs)
- IT Companies' satisfaction rating with the IT Links Program (percentage of good and better responses)
- Increased overall debt portfolio of IT Companies in the financial system (US$ million)

28. More details on these indicators and specific intermediate indicators for each component of the Project are in Annex 3.

C. Project components

The PROSOFT Program

29. The proposed project is one element of a broader PROSOFT Program. Table 1 describes the PROSOFT Program for the calendar years 2008-2012. Overall, the Federal Government plans to invest $250.9 million in PROSOFT, and IBRD $80.0 million for a total of $330.9 million.

Table 1. PROSOFT Program 2008-2012 (US$ million)

	Federal Government	IBRD	Total
A. Human Skills Development	118.6	38.3	156.9
B. Strengthening of IT Clusters	39.6	9.0	48.5
C. Financing of the IT Industry	6.8	2.9	9.7
D. Supporting Infrastructure	70.8	10.1	80.9
E. Outsourcing of Government Services	0.5	2.7	3.2
F. Strengthening of Legal and Regulatory Framework	2.0	6.1	8.1
G. Strengthening of PROSOFT and Project Management	12.6	3.6	16.2
Total Baseline Cost	250.9	72.6	323.5
Physical and Price Contingencies (10%)	0.0	7.3	7.3
Total Project Costs	**250.9**	**79.8**	**330.7**
Front-end Fee (0.25%)	0.0	0.2	0.2
Total Financing Required	**250.9**	**80.0**	**330.9**

30. As mentioned in the previous section, the PROSOFT program is mainly a bottom-up mechanism, responding to individual companies' requests. The proposed Project has been structured as the initial step in a more systematic support to the industry as a whole. The activities financed by the Bank, albeit representing around 25% of the expected resources for the

whole program, are those aimed at changing the current institutional setting of the industry towards a more self-sustainable arrangement. It is expected that by the end of the project Federal Government assistance through the PROSOFT program will represent a smaller portion of the overall IT industry investments.

The Project

31. Table 2 describes the main activities of the proposed project, by calendar year (2008-2012).

Table 2. IBRD Financing Cost by component (US$ million)

Component	2008	2009	2010	2011	2012	Total
1 Human Skills Development	5.0	7.2	8.1	8.3	9.6	38.3
2 Strengthening of IT Clusters	0.4	1.4	2.6	2.4	2.2	9.0
3 Financing of the IT Industry	0.5	0.6	0.7	0.6	0.6	2.9
4 Supporting Infrastructure	1.3	2.3	3.5	2.0	1.0	10.1
5 Outsourcing of Government Services	0.4	1.1	0.7	0.5	0.1	2.7
6 Strengthening of Legal and Regulatory Framework	0.5	1.6	1.7	1.5	0.9	6.1
7 Strengthening of PROSOFT and Project Management	0.4	0.8	0.8	0.7	0.7	3.6
Total Baseline Cost	8.5	15.0	18.0	15.9	15.2	72.6
Physical and Price Contingencies (10%)	0.8	1.5	1.8	1.6	1.5	7.3
Total Project Costs	9.3	16.5	19.8	17.5	16.7	79.8
Front-end Fee (0.25%)	0.2					0.2
Total Financing Required	**9.5**	**16.5**	**19.8**	**17.5**	**16.7**	**80.0**

32. The project is designed in response to a strong demand from State Governments[15], and strongly reinforces previous efforts made by the *Secretaría de Economía* through the PROSOFT program. The project would cost **US$80.0 million,** financed by the Bank. It is expected that the State Governments and the Private Sector (including Universities) would contribute to these funds, as explained in Annex 1 (Table A1.2). Assuming similar proportions in their collaboration to those shown in previous years, State Governments and the private sector should add $38.0 and $122.1 million, respectively.

33. To achieve its objectives, the Project would: (a) build an institution to ramp up the availability of skilled manpower for the IT Industry; (b) create a program to develop and improve linkages between Mexican companies and global corporations; (c) help companies to improve their managerial skills to obtain financing for their projects, (d) assist the State Governments to attract private companies to invest in IT Parks; (e) assist federal, state and municipal governments to outsource services to the private IT Industry; and (f) improve the IT

[15] Initial requests were presented to the Bank by the States of Nuevo Leon and Zacatecas, followed by Jalisco, Coahuila, and Queretaro. Other States have expressed interest though they have not formally requested support.

Policy, Legal and Regulatory Framework. The project would include the following components with Bank financed amounts in parenthesis (more detail in Annex 4):

A. Human Skills Development (US$38.3 million)

34. This component would help the IT/ITES industry to compete globally by increasing the quantity, and improving the quality of skilled manpower. The Project would support establishing the *México Federal Institute for Remote Services and Technology* (MexicoFIRST), using a PPP approach that would bring together leading corporations, industry organizations, global standards bodies, academia and government entities. MexicoFIRST is conceived as an apex institution focusing on internationally recognized certification, mentoring and 'training the trainer' programs, in keeping with industry needs. It would facilitate the design of courses and skill development programs for niche specializations in areas having good market potential, and in line with industry requirements. It would complement existing university programs thereby overcoming the lack of flexibility in adapting academic curriculum to industry needs. The component would also assist English language training programs for the IT and ITES sector.

35. Under this component, the Project would finance:

(a) Technical assistance to start up MexicoFIRST, establish global alliances for the Institute, recruit its key staff, design of first year programs and operational costs of the entity (US$2.8 million); and
(b) Training grants for technical, managerial, and English courses, certifications, seminars and workshops for faculty, students, industry professionals, and potential recruits for the IT Industry (US$35.5 million).

B. Strengthening of IT Clusters (US$9.0 million)

36. This component would help existing IT Clusters and associations in promising States having high potential in the IT/ITES sector. It includes the following sub-components:

(a) The IT.Link (*Information Technology Linkages Network*) would provide Mexican SMEs with access to technologies, processes and markets by linking up with global IT companies. The Project would finance several IT experts who would serve as liaison between the Mexican IT Industry and global corporations, their travel and operating costs. (US$1.5 million)
(b) This component would also provide technical assistance to the IT Clusters that have developed strategies and have the needed resources to develop the IT/ITES sector. This technical assistance would provide support for the implementation of specific activities aimed at increasing their maturity and competitiveness, to help them grow their local industry and give them access to international markets, including awareness and dissemination campaigns. For those IT Clusters that have not yet

developed a strategy but have enough resources to develop the industry[16], the project would support them with the design of their IT/ITES strategy. (US$1.2 million)

(c) Workshops aimed at raising awareness on the benefits of outsourcing and the usage of information technology in business and production processes will be carried out. The main audience for these events is composed of local businessmen in every State, and they would be organized in close coordination with local IT Clusters. (US$1.3 million)

(d) In order to increase the competitiveness and maturity of IT Clusters through the improvement of quality, this component will award certification grants through the PROSOFT fund. Internationally recognized certification programs will allow cluster companies to engage in more ambitious projects and to participate more actively abroad. (US$5.0 million)

C. Financing of the IT Industry (US$2.9 million)

37. This component will create the "Financing of IT Companies Accreditation Program" (FIT). This program will seek to reduce the information asymmetry between Financing Intermediaries (FI) and enterprises and thus facilitate credit to the sector. Business schools and other training centers would be invited to participate in the FIT program.

38. This component would provide:

(a) Technical assistance to design the Financing of IT Companies Accreditation Program "FIT" that would improve management, project management and implementation capacity of IT companies, including the selection of a reputable institution to manage the program. (US$0.3 million);

(b) Accreditation Grants to IT companies to participate in the FIT Program. (US$1.4 million)

(c) Technical assistance to FIs and Banks to develop capacity to appraise IT projects and IT companies (US$1.2 million);

D. Supporting Infrastructure (US$10.1 million)

39. Experience in other countries shows that the IT industry can develop faster through agglomeration and clustering of small, medium and big companies in close proximity to research centers, universities, financial institutions and incubators. Linkages between demand and supply, skill development and industry, and between financing and entrepreneurs, can produce the so-called "Silicon Valley" effect. The establishment of IT Parks is one of the most effective vehicles to promote such agglomerations. In México, PROSOFT has supported the establishment of small IT Parks and some of them are in the middle of their design phase.

[16] These requirements include, inter alia, a critical mass of human capital, a constant flow of students from local universities and a relatively big local industry. These States were identified as part of the study undertaken by the Bank.

However, the process of attracting IT/ITES companies to these parks requires a new approach by leveraging Public-Private Partnerships (PPPs) to channel investments from the private sector. Further the relative strengths of the private sector in marketing, management and operating the facilities for IT/ITES companies would be tapped to capture the benefits of agglomeration.

40. This component would finance:

(a) Technical assistance to prepare feasibility studies, design, and bidding specifications based on a PPP model for IT Parks in selected locations (US$0.9 million); and
(b) The Federal Government part of the investment required for each PPP for the IT Parks. (US$9.2 million).

E. Outsourcing of Government Services (US$2.7 million)

41. Experience in many countries has shown that the Government, being one of the most important users of IT and IT services, can help promote the development of the local IT industry by strategically sourcing its requirements from the private sector. The increased use of IT in government can also help improve efficiency, transparency and accountability within the public sector besides delivering better services to citizens. In México, most e-Government services in the past have been developed in-house, at all levels of government (Federal, State and Municipal). The recent Austerity Decree, will however bring about a radical departure from this approach. The Decree prohibited Federal Government departments from purchasing computers and hardware in general, forcing them to purchase IT services from the private sector instead. As a result of this Decree, there is an opportunity for the Government to use PPP models to tap the private sector to invest in development and operation of those services for the Government.

42. This component would finance:

(a) Technical Assistance to review the legal and regulatory framework of PPPs for Government services and to propose and draft new changes and regulations and/or rules to simplify the implementation of PPPs (US$0.3 million);
(b) Technical Assistance to carry out feasibility studies, design and bidding specifications preparation for PPPs to outsource selected Government services to IT companies (US$1.0 million);
(c) Training of Government officials on the design and implementation of PPPs for e-government (US$0.9 million); and
(d) Technical Assistance and equipment to support the creation of an Integration Competency Center to help government agencies and private sector players to adopt a flexible, agile and highly modular approach to e-government including the adoption of Service Oriented Architecture (SOA), and setting up of cost-effective Technology Escrow arrangements to improve the prospects of SMEs in securing business within and outside of the government (US$0.6 million).

F. Strengthening of the IT Legal and Regulatory Framework and Institutions ($6.1 million)

43. This component would include:

(a) Technical assistance to draft changes and/or improvements to the IT legal and regulatory framework[17] (US$1.2 million);
(b) Awareness raising campaigns for specific programs such as the Trustmark Seal Program and other improvements of sector laws and regulations and their enforcement (US$1.1 million);
(c) Tailor-made professional training for legislators, judges, public servants, law enforcement officers, technical experts in trials, and professors and lawyers in general on IT issues, regulations and enforcement best practices (US$1.9 million);
(d) Creation of a Dispute Settlement Center within the Mexican Software Consortium (US$1.0 million); and
(e) Support the creation and/or strengthening of local Masters programs in IT Law, training professors of Law on IT issues, regulations and enforcement best practices (US$1.0 million).

G. Strengthening of PROSOFT and Project Management ($3.6 million)

44. This component would create an International Consultative Commission in PROSOFT to advice SE on new developments in the global IT industry to formulate new policies for the sector. It would finance:

(a) Operational costs including travel and logistics of the members of the International Consultative Commission in PROSOFT (US$0.6 million);
(b) Technical assistance to carry out studies on the IT sector in México, as requested by PROSOFT's International Consultative Commission, and to bring international experts to México to organize lectures, carry out workshops, consultations and other learning events (US$1.5 million); and
(c) Operational costs of the Team ("*Direccion de Economia Digital*") in *Secretaria de Economi*a to manage, implement, monitor and evaluate the Project. (US$1.5 million).

D. Lessons learned and reflected in the project design

45. The major components of this project – Human Skill Development, Cluster Support and Infrastructure are based on the international experience in countries like India, China, Malaysia and the Philippines to develop a pool of skilled manpower for the IT/ITES sector. These experiences indicate that the best outcomes are obtained when the private sector participates in the design and implementation of the programs to develop the Industry. Therefore, the Project has been designed with strong private sector participation. The government's role would be

[17] The areas are described in Annex 4, and based on M. Bendersky report.

limited to PPP concept design and promotion and also contributing minimum public funds to mitigate risks for private sector investments.

a. Development of Skills

46. There are a number of international examples of attempts to develop skills for the IT/ITES sector. Prominent among these have been (i) China's 'Thousand – Hundred – Ten' initiative[18] that hopes to train nearly half a million people for the BPO sector, (ii) Penang Skills Development Center[19] in Malaysia has forged a close linkage with industry to develop skills, (ii) Nasscom's efforts in India include an assessment of competency[20] for benchmarking of skill gaps in BPO. A common lesson from all these examples is that it is necessary to have close linkages with the private sector for skills development initiatives to succeed. The IT/ITES skills development initiative for Mexico under the present project is therefore anchored in an institution that is largely private sector driven.

b. English language Training

47. The availability of a talent pool that is conversant with the English language is one of the key drivers of investments in the IT/ITES sector. Countries like India and the Philippines have benefited greatly from this advantage, while even a potentially major player like China has been handicapped by the low availability of English speaking workers. Consequently a component focusing on the development of English language skills has been thought necessary for inclusion in the project.

c. Importance of Global Networks

48. In an increasingly globalized world, much can be gained from forging partnerships with diverse international players. For example, global co-innovation networks (COINS) are being increasingly used by the private sector for innovating new products and services. Investment promotion agencies like CORFO in Chile have attempted to make strategic use of transnational networks for attracting investments in high technology[21]. The concept of MexicoFIRST aims to establish a network of global partnerships focused specifically on developing skills. Using best in class organizations and expertise for skills development can compress time along the learning curve, and also build a brand for Mexico that can capture the mindshare of potential investors.

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[18] http://www.chnsourcing.com/article/thousand/Index.asp (site accessed on November 21, 2007)
[19] http://www.psdc.com.my/ (site accessed on November 21, 2007)
[20] http://chdit.nic.in/nac_test.pdf (site accessed on November 21, 2007)
[21] Nelson, Roy C, Transnational Strategic Networks and Policymaking in Chile: CORFO's High Technology Investment Promotion Program, 1 July 2007, Journal of Interamerican Studies & World Affairs, Volume 49; Issue 2.

d. Leveraging the Private Sector for Development of IT Infrastructure

49. A global study carried out for infoDev on the international experience in the development of IT Parks found four factors critical for success of IT Parks: (1) private management and anchor investor; (2) location of the Park near airports, large urban centers, universities, housing and recreational facilities; (3) qualified and skilled manpower; and (4) availability of angel investment, venture capital and private equity[22]. Parks that were developed solely with funding from the government e.g. in Hubli - India[23], did not succeed as compared to parks developed through private sector investments. Consequently the funding model proposed for the development of IT Parks under the project is one that leverages private sector investments for developing Park infrastructure.

e. Integration Competency Center

50. It has been the experience of many governments that a strong system of governance is essential to benefit from interoperability and from economies in the use of shared infrastructure and services. In the case of the US the Office of e-Government is located within the Office of Management and Budget, while in Canada it is the Treasury Board that exercises oversight for e-government. It will be important that the proposed Integration Competency Center should be properly plugged into the decision making processes and hierarchy of government.

f. Public Private Partnerships

51. While PPPs in e-government can be highly successful, they also pose a number of challenges. These challenges are largely centered on unfriendly government regulations and problems in structuring financial arrangements and risk sharing mechanisms. It is important therefore that a cautious and well sequenced approach is adopted for PPPs in Mexico. The project would therefore first conduct feasibility studies duly identifying issues that need to be addressed for each of the e-government PPP candidates. Only if the approach is found feasible would actual funding of PPPs be taken up.

E. Alternatives Considered and Reasons for Rejection

52. The following alternatives were considered:

(a) Adaptable Program Loan (APL). This alternative was rejected because the Government of México requested our intervention to improve the PROSOFT initiative in the medium term (5 years), to obtain better results with fewer resources and to design this support with a clear exit strategy for subsidy programs. This means that the Government would like to support the IT Industry development up to a point in which Industry acquires a

[22] Price Waterhouse Coopers, "International Best Practice for Establishment of Sustainable IT Parks", April 2007 (forthcoming publication). More details in Annex 4.
[23] infoDev, March 2007, International Best Practice for Establishment of Sustainable IT Parks (report prepared by PWC).

critical mass that allows it to grow on its own, at which point the government would reduce the level of subsidies. Therefore the components of this Project are designed to ensure the future sustainability of the initiatives, even though the Government resources are likely to be reduced in the medium term.

(b) Development Policy Loan (DPL): This option was rejected because there are no major reforms required to remove bottlenecks in the IT sector and reforms in other sectors (i.e., Education) could not be implemented in practice in the short-term. The IT Sector needs support, especially to develop the human resources needed by the Industry, which the government has not been able to deliver through the formal education system. This is the same for all the other issues identified above. The components of this Project are designed to address those issues, without the requirement of a major law or reform that would make the use of a DPL attractive.

III. IMPLEMENTATION

A. Institutional and implementation arrangements

53. The *Dirección General de Comercio Interior y Economía Digital* (the "Team") in *Secretaría de Economía* (SE) would be the implementing agency. This is the same Team that has managed the PROSOFT Fund, since 2003 and in 2008 it has a budget of $61 million. The Organization Chart of the Team is included in figure A6.1 in Annex 6. This Team is a very effective group and the Bank has appraised its capacity to implement the Project. The Team would be assisted by a small number of individual consultants to manage and implement the Project.

54. The PROSOFT Fund Operation is shown in Figure A6.3 in Annex 6. IT companies or universities (the "beneficiaries") request support to projects to PROSOFT through a Promotion Agency (CANIETI, AMITI or a State Promotion Agency). During appraisal, the Bank found that the Fund is the ideal vehicle for project implementation because it delegates the implementation of sub-projects to the beneficiaries. The following table summarizes the implementation by component. To minimize the implementation costs, the Team in SE will provide technical assistance to the beneficiaries indicated in the table to implement their respective activities. More details are included in Annex 6.

Table 3. Project Implementation Arrangements by Component

Component	Implementation / Beneficiary	Mechanism for Funds Transfer	Promotion Agency
1. Human Skills Development:	CANIETI	PROSOFT Fund	AMITI
(a) Start up of MexicoFIRST			
(b) Operations of MexicoFIRST	SE/Mexico FIRST[24]	PROSOFT Fund	State Promotion Agencies, AMITI
2. Support to IT Clusters			
(a) IT.LiNks	CANIETI, AMITI	PROSOFT Fund	AMITI, CANIETI
(b) Support to Clusters	IT Clusters	PROSOFT Fund	AMITI, CANIETI
(c) Awareness raising workshops	IT Clusters	PROSOFT Fund	AMITI, CANIETI
(d) Certification programs	IT companies	PROSOFT Fund	State promotion agencies
3. Financing			
(a) Design of Accreditation Program	CANIETI, AMITI	PROSOFT Fund	AMITI, CANIETI
(b) Accreditation grants	IT companies	PROSOFT Fund	State promotion agencies
(c) Technical Assistance (TA) to FI	SE / TBD	Direct/PROSOFT Fund	TBD
4. IT Parks			
(a) Studies, design of PPP	State clusters	PROSOFT Fund	CANIETI, AMITI
(b) Construction, finishing, equipment.	Real Estate developer	PROSOFT Fund	State promoting agencies
5. Outsourcing of Government Services			
(a) Legal and Regulatory Review	SE / TBD	Direct/PROSOFT Fund	TBD
(b) Feasibility Studies, design of PPPs:			
(i) to Federal Entities	SE / TBD	Direct/PROSOFT Fund	TBD
(ii) To State Entities	States	PROSOFT Fund	CANIETI,AMITI
(c) Training of Gov. Officials	SE / TBD	Direct/PROSOFT Fund	TBD
(d) Integration Competency Center	SE / TBD	Direct/PROSOFT Fund	TBD
6. Legal and Regulatory			
(a) Review of regulatory framework in the country	AMIPCI	PROSOFT Fund	CANIETI, AMITI
(b) Trustmark Seal program	AMIPCI	PROSOFT Fund	CANIETI, AMITI
(c) Training	UNAM	Direct/PROSOFT Fund	TBD
(d) Dispute Settlement Center	Consorcio Mexicano de Software	PROSOFT Fund	CANIETI, AMITI
(e) Creation of a Masters program in IT Law	ITAM	PROSOFT Fund	CANIETI, AMITI
7. PROSOFT strengthening and Project Management	SE	Direct	n.a.

[24] SE will carry out this component until MexicoFIRST has a financial management system in place in a manner satisfactory to the Bank.

B. Monitoring and evaluation of outcomes/results

55. *Dirección General de Comercio Interior y Economia Digital* in *Secretaría de Economía* (the "Team") would collect the data for monitoring the results of the Project. MexicoFIRST would maintain a database of all students that are trained and the companies they are working for. It would also collect the data of the links established under the IT Links program between Mexican Companies and Multinationals. They would send these data periodically to the Team. The Team would then regularly process the data to calculate the indicators described in Annex 3. The Team would hire an external firm/institution every year to carry out a Survey for the IT Links Program that would be filled by the IT companies. The Team would use the results of this Survey to provide feedback to MexicoFIRST to improve the program and to calculate the IT Links indicator. The Team would collect the data from the FIT Accreditation Program on the number of companies that are accredited. The Team would also request Banks and Financial Intermediaries input on the impact of the Accreditation Program in their lending portfolios, every year. The Team would also collect data on the E-Government PPPs, and the legal and regulatory Technical Assistance activities, the training courses and the awareness activities under the project. The Team would prepare annual reports on the indicators and the progress of the Project. The Bank would supervise the Project and once a year would review the results to discuss and agree with the SE on changes and improvements of the components to reach the objective. Annex 3 gives more details on the specific indicators that would be used to monitor results under this Project.

C. Sustainability

56. The aim of this Project is to implement actions that would be sustainable in the future, reducing the need for Government subsidies to the industry in the long run. Therefore, each component has been designed with sustainability in mind, reducing transfers of public funds to the industry in the long term. Annex 4 gives a detailed description of the components and in it one can find the elements of future sustainability. The majority of the components were designed using Public Private Partnerships. The Private Party would own the majority share and manage the PPP, thereby ensuring proper operation and future sustainability of the initiative. Another principle used in the Project design is that the public funds be used to support public goods, for example in the training components. The reason for this support is to compensate for the gap between the level of education of the young graduates and the level required for their employability. In this case, the role of MexicoFIRST would be reduced over time, as universities in México gradually modify their programs and adapt faster to industry needs.

D. Critical risks and possible controversial aspects

57. **Benefits.** It is expected that by the end of the project there would be at least 20,000 new direct jobs created in the IT industry in México, and approximately 60,000 new indirect jobs in

downstream (mainly services) markets[25]. Additionally, exports are expected to increase to US$5 billion by year end 2012. IT SMEs would have an active role in increasing the productivity and competitiveness of Mexican companies in general.

58. **Risks.** The following table details the identified potential risks, the mitigation measures to reduce their impact, and the post-mitigation ratings.

Risks	Mitigation	Ratings
Institutional, management and coordination capacity of participating institutions. Even though the team at the Secretaría de Economía has proven to be effective and accountable, it may lack the experience to carry out certain transactions. MexicoFIRST would be a new institution and may lack the necessary expertise to carry out component 1(b). These institutions have to coordinate the implementation of the Project with State Governments and other entities.	MexicoFIRST (and the PROSOFT fund) would work on a bottom-up scheme, by which only interested parties would present projects to be supported by the program. Capacity building activities for further improving MexicoFIRST and the Team in SE have been included in the project to increase capacity in the Team and in Mexico FIRST. Also MexicoFIRST was designed to be a private sector institution managed by an experienced CEO.	M
Lack of experience in the Procurement aspects of a World Bank-financed project	SE has agreed to follow an Action Plan to reinforce the DGCIED with experienced procurement staff, to comply with the project fiduciary requirements.	H
Lack of experience in the Financial Management aspects of a World Bank-financed project	SE has agreed to follow an Action Plan to reinforce the DGCIED with experienced FM staff, to comply with the project fiduciary requirements	S
Not good targeting. Current allocation mechanisms may miss projects, companies and/or States that have a higher impact on economic development.	The project includes a thorough revision of allocation mechanisms and a M&E component that would focus on the impact of fund resources. PROSOFT has awarded 1,100 projects and has managed to keep track of expenditures from all its projects but one.	M
Lack of support from State authorities. Despite the support of the federal government, the projects presented to the PROSOFT board (even those that go through MexicoFIRST) have to be supported by State authorities.	As mentioned above, the bottom-up nature of the project would naturally filter authorities that won't be willing to support the program. However, part of the awareness and dissemination campaigns would be aimed at State authorities that have proven to be skeptical about the program and/or the benefits of IT.	M
Deterioration of country environment. This could negatively affect the attractiveness of the country and reduce demand for IT-related exports.	The current government has given clear signs towards protection of foreign investment and reform in the urban security front. Additionally, the program includes activities supporting	M

[25] See for example: Nasscom-McKinsey report 2005 "Extending India's Leadership of the Global IT and BPO Industries."

	promotion programs to complement the México IT effort.	
International slow-down on IT related activities	Current trends show a growing industry with 30% CAGR. Additionally, the project is also aimed at serving the local IT market which is vastly underserved.	L
Overall Risk Rating		M

L = Low; M = Moderate; S= Substantial; H = High

E. Loan/credit conditions and covenants

59. For effectiveness, execution of the "*Contrato de Mandato*" between NAFIN, SHCP and SE. This contract defines the role and responsibilities of NAFIN in the project.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses

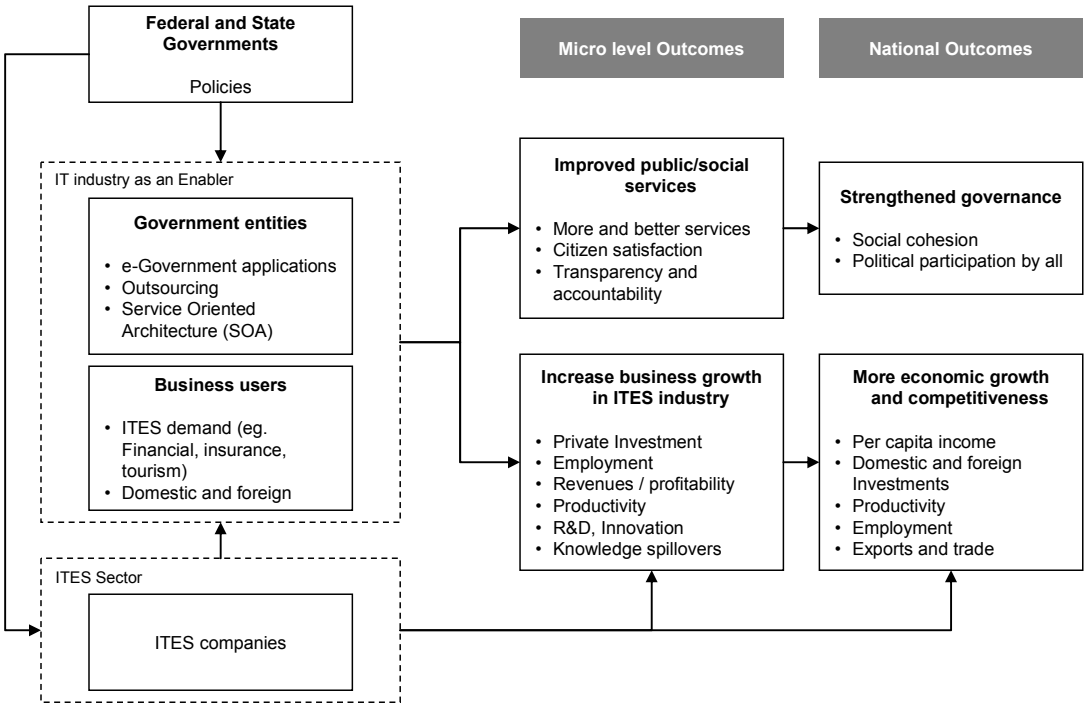
60. Figure 4 shows some of the main effects that the project would have on the broader Mexican economy. As can be seen, many of the most important effects that the project would have such as knowledge spillovers, increase in productivity across other industries, or citizen satisfaction, are very difficult to quantify.

61. Given the complexity of calculating all the effects of the project on the economy, an estimation of the impact of the project in terms of direct employment has been made[26].

62. In order to do this, the simple equation of aggregate demand on the additional salaries of new ITES positions was applied. It is important to note that the positions to consider must only be those that are created by new opportunities that stem from the project rather than improvements in the existing base and/or outsourcing from existing domestic IT departments.

[26] The analysis only covers direct employment. However, some estimations from studies undertaken in the State of Andhra Pradesh in India suggest the creation of 3-4 additional downstream jobs for each new job in the ITES/BPO industry.

Figure 4. Mexico IT Industry Development Project Development Impact



Based on Qiang, Christine, "Framework of ICT's Development Impact", in Information and Communications Technologies for Development 2009, forthcoming.

63. Basically, this methodology considers the downstream effects on GDP of the new income generated by these workers by applying a multiplier that is applied to investments and government expenditures. In this case, the multiplier is close to 1.8 (that is, for each $1 of investment or government expenditure, national income increases by $1.8).

64. The analysis shows that under conservative assumptions, the economic benefits of direct employment created by the project far exceed its costs. It must be noted that this analysis only considers a portion of the economic impact that the project would have across the Mexican economy. A detailed description of the calculations is included in Annex 9.

B. Technical

65. No major technology issues or obstacles are anticipated in the project. However, the project e-Government component could benefit from fast technological development in the sector. The proposed creation of a competency center should take care of considering the latest technology when feasible, allowing cost reductions for the government and giving more flexibility to the design of public-private partnerships.

66. For IT Parks taken up under the project the establishment of shared technology infrastructure would be considered if necessary. Such infrastructure would take into account the latest technologies available for the benefit of SMEs.

C. Fiduciary

Financial Management

67. The Bank has conducted a Financial Management Assessment (FMA), which involved ensuring that the project design allows for an appropriate level of transparency that facilitates oversight and control while also supporting smooth implementation. The aim of the FMA was to assess the proposed FM arrangements to identify any weaknesses and to assess the risks these pose. At the same time the Bank provided advice to Secretaría de Economia (SE) and Nacional Financiera (NAFIN) on the design of appropriate FM arrangements, which will ensure that identified risks are monitored (and mitigated) in a structured manner throughout the life of the Project (including the proposed operation of the MexicoFIRST, the institution which will be responsible for the implementation of component 1). MexicoFIRST was created on April 3, 2008.[27] As soon as MexicoFIRST is ready, the Bank will carry out a FMA to ensure that FM arrangements are satisfactory to the Bank to channel funds of the corresponding component (Annex 7 provides additional information).

68. Based on the results of the above indicated FMA, the FM team has concluded the following:

(i) The fact that MexicoFIRST is a new agency represents a high risk for a successfully Project implementation;

(ii) since SE does not have experience managing Bank-financed operations, the recent hiring of an experienced consultant has partially mitigated the risk related to staffing. Although the credentials and experience of the consultant who is currently preparing the Operations Manual for the proposed project are acceptable to the Bank, she will receive training on FM for Bank-financed operations;

(iii) to complement the above mentioned effort, NAFIN will provide implementation support and oversight based on its many years of experience as both financial agent and implementing entity. NAFIN's record to date on FM matters has been satisfactory to the Bank;

(iv) based on an agreed action plan, SE will implement strengthening actions which will be in place prior to launching the project, including updated operating rules (written procedures), reporting formats (the semiannual Interim un-audited Financial Reports or IFRs), auditing and allocation of new responsibilities to staff in SE areas which will support the implementing team in the *Dirección General de Comercio Interior y Economía Digital* (DGCIED) which hosts the *Coordinación de Administración y*

[27] Escritura números 92, 1637, Libro 1,585, México, D.F.

Operación del PROSOFT. Section III A and Annex 7 of this PAD provide detailed information on implementation arrangements).

The written procedures and reporting formats will reflect the simplifications proposed in the Financial Management/Disbursements section of the Bank's Review of Country Systems in Mexico, which was delivered to the Federal Government in July 2005; and

(v) overall, the FM risk for the proposed project is Substantial (S). However, current arrangements are acceptable to the Bank for project initiation. There are a couple of areas that need strengthening and will be addressed through capacity building during project implementation. The Bank has recommended suitable mitigating actions to SE, and agreed them in an action plan. All identified risks will be monitored (and mitigated) in a structured manner throughout the life of the proposed project. Annex 7 of this PAD contains a table which summarizes identified risks and the mitigating actions, and the main activities of the Action Plan.

69. Overall, SE's Financial Management (FM) arrangements are consistent with Bank's principles and practices on the subject, and the proposed project will allow for the use of existing government FM arrangements (country systems that are satisfactory to the Bank), thus minimizing any additional program specific requirements e.g. budget formulation and recording. Since current arrangements are acceptable to the Bank for project start-up, minimum adjustments will be required at the beginning of the implementing period e,g. implementation of adequate FM arrangements for the operation of MexicoFIRST.

Procurement

70. The Bank conducted a procurement management assessment which involved ensuring that the project design allows for an appropriate level of transparency that facilitates oversight and control while also supporting smooth implementation. SE will implement an Action Plan to strengthen its capacity to manage the Project, specifically they will: (i) recruit procurement staff in SE with experience on Bank's procurement rules; (ii) follow uniform procedures at the beneficiary level to implement the Project; and (iii) hire staff with experience in implementing projects financed by the Bank. Annex 8 includes a detailed explanation of the Procurement assessment and related issues. A procurement plan was prepared and agreed during negotiations.

D. Social

71. This project would promote the IT industry on a large scale, which would in turn promote the creation of highly educated individuals. It is expected that more than 30,000 engineering (or related careers) students will improve their professional and language skills. Additionally, incentives to study professional careers would be created among high school students which may currently be disappointed by unemployment and underemployment.

72. For every professional position a number of downstream jobs would be created[28], representing employment opportunities to currently adult unemployed population. Additionally, trends in other developing countries show that once primary cities boom in the IT/ITES industry, a process of decentralization of locations within their territory starts, helping the economy of secondary cities[29].

E. Environment

73. An Environmental and Social Management Framework (ESMF) was completed and met the Bank's Standards. An ESMF is an upstream management framework that uses cases where the type of subprojects which the program would finance are specified or limited by project design (in this case, IT parks), even though the exact location, design, size and extent of the individual subproject(s) have not yet been determined. The ESMF:

- Established clear procedures and methodologies for the environmental and social screening, review, approval and implementation of investments to be financed under the Project;
- Specified appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns (including resettlement) related to the Project investments;
- Determined the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF;
- Established the Project funding required to implement the ESMF requirements; and
- Provided practical information resources and best practice guidelines for implementing the ESMF in compliance with the World Bank safeguard policies and the applicable Mexican regulations and norms.

[28] For instance the State Government of Andhra Pradesh estimated that between 3 and 4 downstream jobs were created for every one new in IT/ITES job.
[29] Besides India, a good example is provided by Kenya, where a national backbone network would boost the creation of contact centers in secondary urban areas.

F. Safeguard policies

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[ ]
Pest Management (OP 4.09)	[ ]	[ ]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[X]	[ ]
Forests (OP/BP 4.36)	[ ]	[ ]
Safety of Dams (OP/BP 4.37)	[ ]	[ ]
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[ ]
Projects on International Waterways (OP/BP 7.50)	[ ]	[ ]

G. Policy Exceptions and Readiness

74. There are no policy exceptions. The Project is ready to be implemented.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

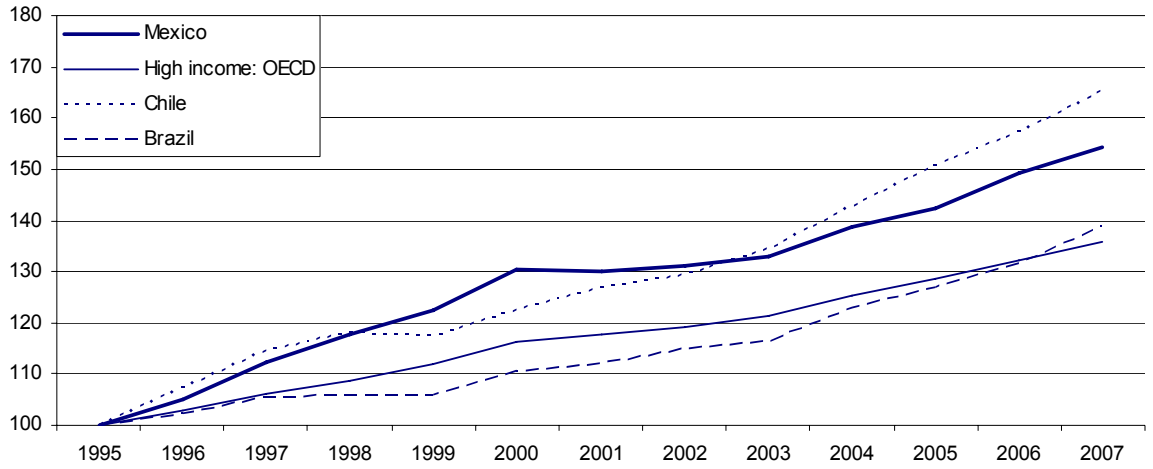
Annex 1: Country and Sector or Program Background

MEXICO: Information Technology (IT) Industry Development

Country Background[30]

1. Reforms to liberalize the Mexican economy undertaken throughout the last 20 years have produced positive results: following the 1994-1995 crisis, Mexico's performance has been commendable, with an average annual increase of 3.7% on GDP between 1995 and 2007. This is higher than the growth for OECD countries (2.6%), but slightly below Latin America's top performer, Chile (4.3%).

Figure A1.1 Mexico's Economic Performance, 1995-2007
(GDP in real terms, 1995=100)



Source: World Bank, Central Bank of Chile, OECD

2. As can be seen in Figure A1.1, the current expansion began in 2004, and led to a 2006 growth rate of 4.8%. However, seasonally adjusted quarter-on-quarter growth rates signaled a deceleration of growth as of the second half of 2006, mainly due to a decrease in external demand.

3. Growth in 2007 was reported as 3.3%, below that of 2006. A 2.8% growth rate is expected for 2008, recovering to approximately 3.5% for the following years. Mexico is currently being affected by the slowdown of the United States' economy more than other countries, since there is a very high correlation between their industrial production figures (the US accounts for approximately 80% of Mexican exports).

[30] Based on "OECD Economic Surveys: Mexico", Volume 2007/18, OECD, 2007 and the Country Partnership Strategy for the United Mexican States FY08-FY13 (Report No 42846-MX).

4. An inflation level of 3.8% was registered during 2007, above the 3% target set by the Central Bank. The main driver of inflation during 2007 was supply shocks from commodities, passed through to processed food. Annual food price inflation was 6.3% at the end of March 2008.

5. Under the overarching theme of Sustainable Development, the new government of President Felipe Calderon has outlined the National Development Plan (PND) for the years 2007 – 2012. The PND is based on five pillars, namely: (i) Public Law and Public Safety; (ii) economic competitiveness and generation of jobs; (iii) equality of opportunities; (iv) environmental sustainability; and (v) effective democracy and responsible foreign affairs. Box A1.1 provides additional information on each pillar.[31]

Box A1.1 National Development Plan 2007-2012

The PND has five main pillars:

(1) Rule of law and public safety. The theme here is fundamental compliance with the law – with the government itself setting an example—and effective protection of individuals and property. Note that crime arises from investment climate data as an important variable for firm productivity.
(2) Economic competitiveness and generation of jobs. In this section, the plan mentions the following: macro stability, demographic transition with a growing working population as an opportunity, property rights, clearly defined limits of the role of the state in promoting competitiveness, infrastructure, finance and technological innovation.
(3) Equality of Opportunities. This pillar focuses on: an intergenerational approach to poverty and inequality; access to basic services; territorial planning; quality education; civic participation; urban issues.
(4) Environmental sustainability. One focus here is on strengthening the *Transversalidad* agenda—incorporating environmental considerations into the cross-section of government activities. In addition, some the topics emphasized are: better use of natural resources, environmental impact evaluation and scientific progress; exploring economic-environmental "win-wins" like reforestation, payment for environmental services, sustainable water use (stop aquifer depletion and desertification), economic valuation of natural resources; active participation in international commitments on climate change.
(5) Effective democracy and responsible foreign affairs. This chapter suggests that political parties are important but there is a need to promote a "*ciudadanización*" of politics: more direct citizen involvement. The chapter also focuses on accountability, the need for dialogue and collective agreements; international affairs on trade issues, migration, and human rights.

Each chapter or pillar of the NDP has a list of numerous objectives and more detailed strategies for achieving those objectives.

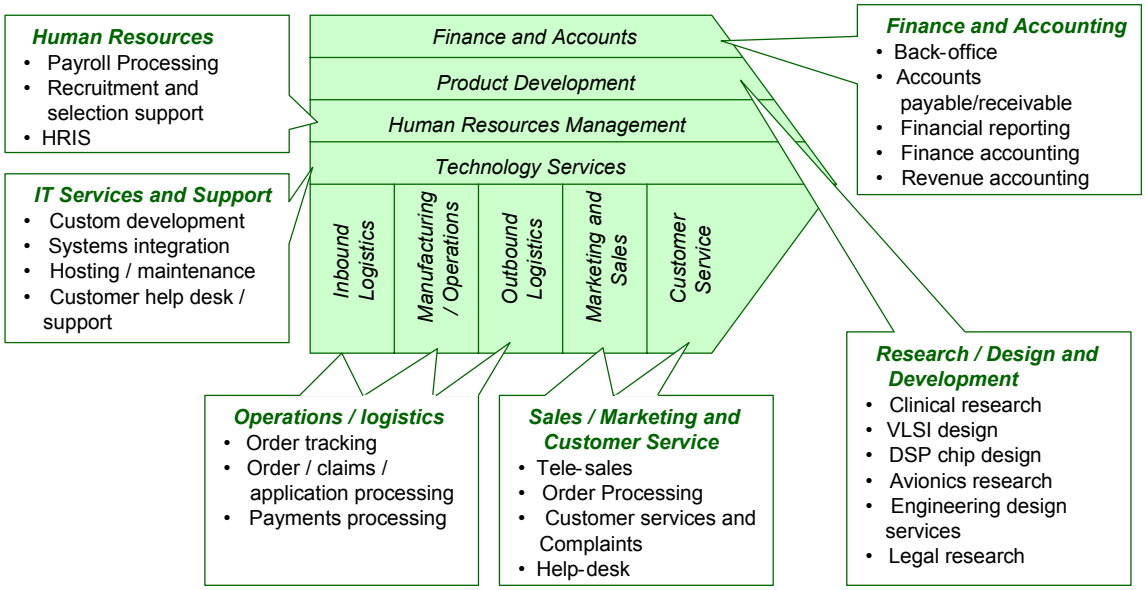
6. Several of the strategies in the NDP rely on Information Technologies for their implementation, specially those related to increasing the productivity of the labor force and the competitiveness of the Mexican economy; increasing access to public services (education, health); and increasing the reach, efficiency and accountability of the Government.

[31] The PND is available in Spanish in http://pnd.calderon.presidencia.gob.mx/index.php?page=home

Sector Background

7. Information Technology (IT) and IT enabled services (ITeS), also called Business Process Outsourcing (BPO) have witnessed phenomenal growth during the last few years: many value-added services traditionally considered "non-tradable" are now being delivered over inter-oceanic fiber optics networks[32]. Call centers, online support sites, tax and accounting processing centers, software development centers, R&D facilities, among others, are being built in developing countries either by offshore international companies or by local entrepreneurs that foresee an opportunity in offering this sort of services to other countries. The services cover a broad range of activities with different levels of complexity. Figure A1.2 shows that the potential for offshoring spans the entire business value chain.

Figure A1.2 Potential for Growth in the whole Business Value Chain

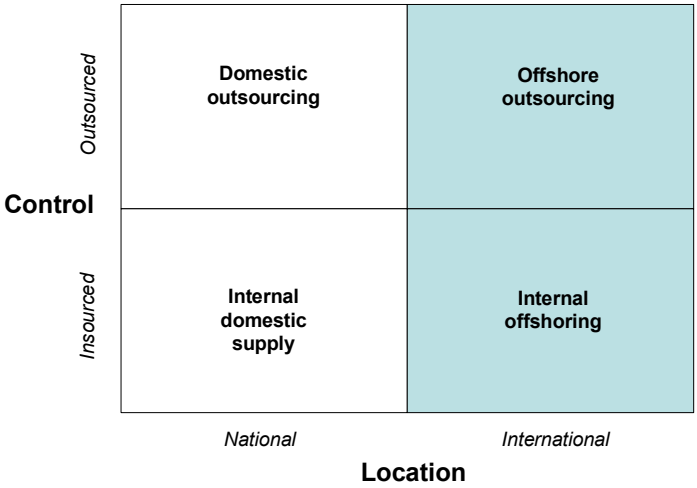


Source: KPMG – NASSCOM (2004)

8. In order to better understand the Offshoring and Outsourcing market, figure A1.3 shows the different options that companies have with respect to where to locate any of their internal processes. Companies have two main decisions to make with respect to any internal process: they can either keep it as part of the company or use a third party to take care of it; and they can also decide whether to keep it in their home country or have it delivered from another international location.

[32] See footnote 2.

Figure A1.3 Offshoring and Outsourcing



Source: OECD (2004)

9. Depending on the actual segments of services (business processes, information technology services, etc.), there are different sets of skills that are required by outsourcing and Offshoring companies. The burgeoning demand for skills has meant that the availability of trained manpower has become the major driver for investments over the last few years.

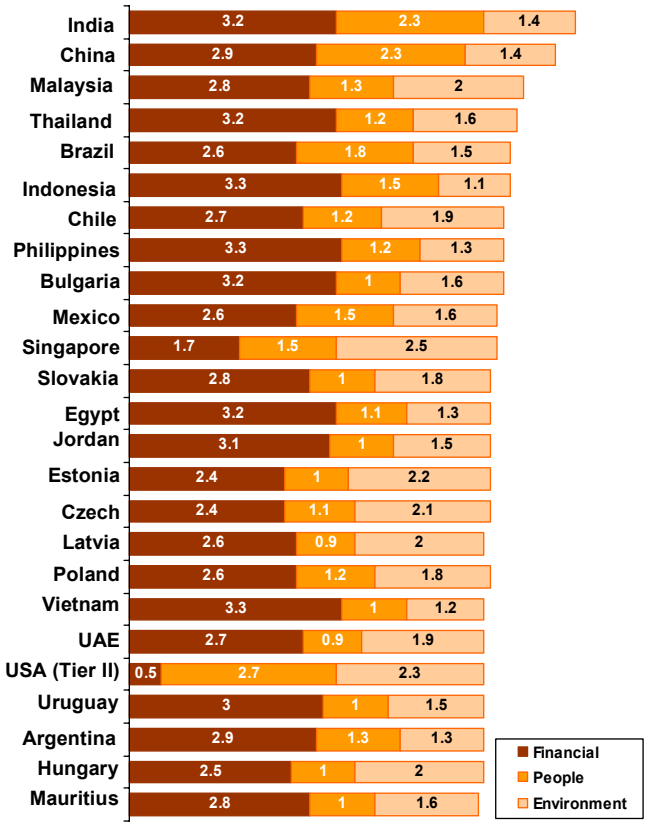
10. It is estimated that the Offshoring market has a potential US$300 billion, out of which only approximately 11% is being currently realized by Offshoring locations worldwide. In the case of Mexico, the country is currently exporting approximately US$1.7 billion (0.6% of the global opportunity) in the IT/ITES sector.

11. While the off-shore IT industry grew at 21% annually from 2001 to 2005, the offshore ITES industry grew at an impressive 49%. India, by far the biggest player in this field, generated export revenues of US$31.4 billion in FY2007, and employed 1.6 million people in the IT/ITES industry. According to some estimates, each job in the IT/ITES sector creates 3 to 4 jobs in sectors such as transportation, construction, health, entertainment and others[33].

12. Mexico has proven to be an attractive location for Offshoring. Recently, A.T. Kearney published their annual Global Services Location Index[34], placing Mexico as number 10 globally. Figure A1.4 shows the top 25 countries and their partial scores on the three different dimensions that the company uses in its methodology: Financial (costs); People (quality and quantity of human resources); and Business environment.

[33] NASSCOM-McKinsey Report 2005.
[34] Available at: http://www.atkearney.com/res/shared/pdf/GSLI_2007.pdf

Figure A1.4 A.T. Kearney Global Services Location Index 2007



Source: AT Kearney, 2007

13. With regard to the local market, Mexican companies are not used to outsource their services within their country. For example, it is estimated that 65% of the US$2.5 billion domestic software market could be outsourced[35], including government services that are currently inefficiently developed in-house. Additionally, Mexican firms do not use extensively IT in their business processes: the IT industry in Mexico accounts only for 3.1% of the GDP, compared to 5.3% in Latin America, 7.1% in high-income countries and 8.8% in the United States.

Program Background

14. The PROSOFT Program was created in 2003, framed under the National Development Plan 2001-2006. At first it was focused on developing the Mexican software industry, but later it expanded its scope to cover the whole IT industry, including IT enabled services.

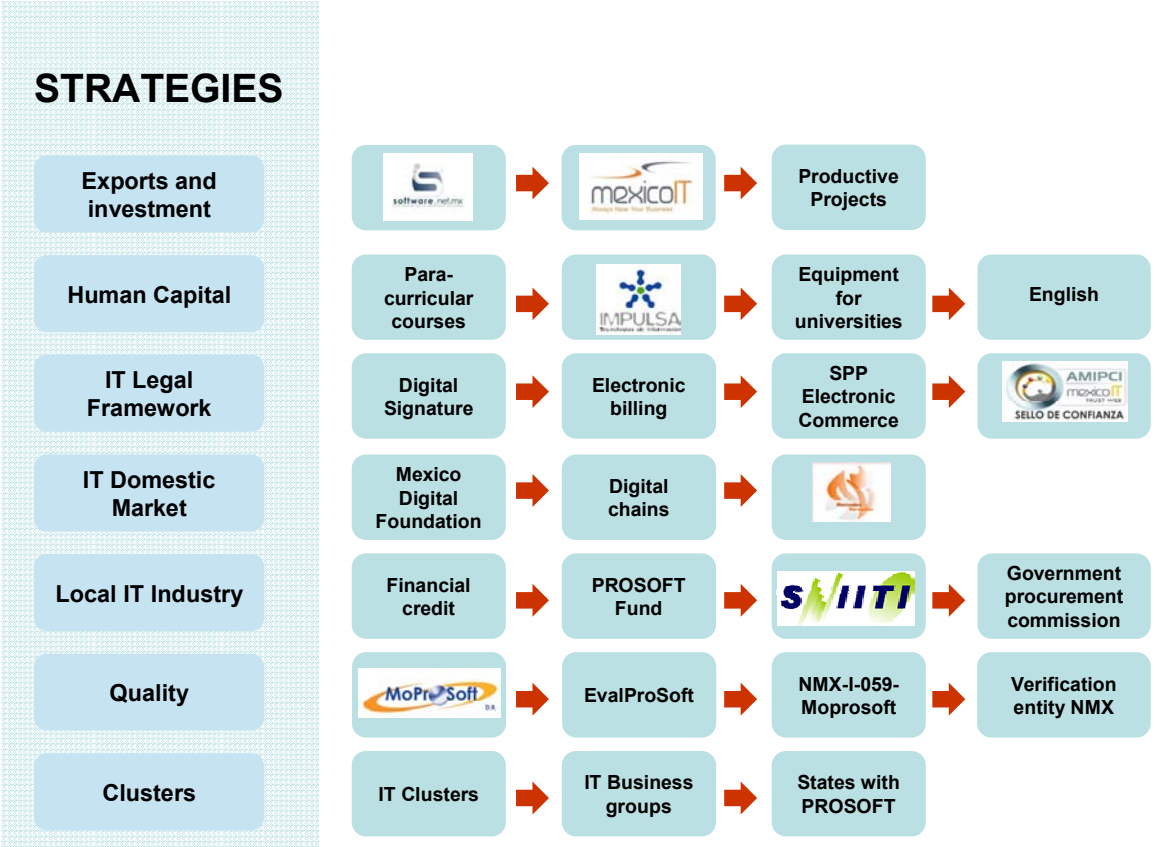
15. Since its beginning, the PROSOFT Program has received inputs from all relevant stakeholders, including IT companies, universities, state governments, and the Federal

[35] Source: A.T. Kearney and Select.

Government. These stakeholders are closely linked to the program's original design and give constant feedback to its leadership in the Ministry of Economy.

16. As Figure A1.5 shows, there are seven strategies/dimensions that stem from the program, each divided in different initiatives (25 in total). Specific tasks have been established for each, with specific targets which are being constantly tracked by the program.

Figure A1.5 PROSOFT Program



Source: PROSOFT, 2007

17. The most prominent initiatives led by the PROSOFT Program are:

a. Mexico IT. This is an international branding strategy aimed mainly at the United States market, presenting the main benefits that Mexico presents for their Offshoring operations. The campaign is closely coordinated with the industry, and PROSOFT's involvement is expected to reduce over time[36].
b. MoPROSOFT. The MoPROSOFT (Model for Processes in the Software Industry) standard for software companies has been developed by the PROSOFT Program in coordination with the Software Engineering Institute at Carnegie Mellon

[36] For 2007, support from Government will decrease from 85% to 65% of total funding requirements.

University. The standard was created to give an alternative for small and medium companies and has been praised internationally.

c. PROSOFT Fund. The PROSOFT Fund was created in 2004 to support projects which promote the creation, development, consolidation, feasibility, productivity, competitiveness and sustainability of the companies in the IT sector, and to foster their use in the economic sectors of the country[37].

18. The program has produced impressive results. Between 2002 and 2006, the workforce in the IT/ITES industry has increased by 45% up to 80,000[38]. 21 States have developed IT Clusters and 121 universities have linked with the program. Mexico currently ranks first worldwide in number of PSP certified human resources[39]. During 2006, the IT sector grew 14%, almost three times the Mexican economy, and is expected to increase in the following years. In many respects, the success of the program is based on the bottom-up approach under which it works, with a responsive leadership that has always incorporated inputs and feedback from state government and the industry.

19. As of year end 2006, 64% of the targets set by the program have been accomplished[40]. The PROSOFT Fund has disbursed approximately US$110.5 million between 2004 and 2007, supporting approximately 1,100 projects presented by the industry to the PROSOFT board[41]. For every US$1 that the fund has disbursed, State governments have contributed US$0.50, the private sector US$1.60, and academia and other parties US$0.20.

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[37] The ProSoft fund rules and award prioritization criteria are objective, timely and public. The 2007 Rules for the ProSoft Fund are available at http://www.software.net.mx/NR/rdonlyres/13E3637A-7BAB-45D3-B316-CA6036F4C1EB/1476/DOF_RO_PROSOFT_2007.pdf

[38] This number does not include the IT departments of non-IT-companies and in Governments, or individuals, but only the staff working in formal IT companies. The total number of IT professionals in Mexico is estimated at 390,000.

[39] The PSP (Personal Software Process) is an industry standard aimed at individual software developers rather than companies.

[40] The seven strategies and 25 initiatives have been divided into 121 tasks with specific targets.

[41] A list of all supported beneficiaries can be found at http://www.software.net.mx/apoyosprosoft/. A detailed analysis of the Program's operations for 2006 can be found at http://www.software.net.mx/anuario/.

Table A1.2 PROSOFT Fund 2004-2007*

In US$ millions	2004	2005	2006	2007*	Total	%
PROSOFT Fund	12.4	17.7	39.3	41.1	110.5	*28.7%*
State Governments	3.8	9.9	21.4	26.6	61.7	*16.0%*
Private Sector	5.3	33.7	70.0	77.9	186.9	*48.5%*
Academia	0.3	1.2	1.3	5.4	8.2	*2.1%*
Other	0.3	6.7	2.9	8.1	18.0	*4.7%*
Total	**22.1**	**69.2**	**135.0**	**159.1**	**385.4**	***100.0%***
memo: Number of Projects	*68*	*181*	*334*	*480*	*1,063*	

* As of Nov 1, 2007

Other information

Jobs	
Improved	20,141
New	22,677
IT Companies	
Served	3,869
New	153

Source: Secretary of Economy, General Direction of National Commerce and Digital Economy

20. The PROSOFT Program has been praised by the Government and by international analysts as an effective mechanism to support the ITES/BPO industry. However, it has some limitations: a) the program is limited by an annual budget process, and therefore it can only support short-term initiatives; b) for this same reason, there is no guarantee as to its duration, as it depends on the approval of a new budget line every year; c) it does not support some of the required investments, in particular those related to large infrastructure projects; d) its assistance to States in developing local capacity and leadership has been limited, and only a handful of States have benefited from the program so far; e) it has addressed the financing problem with partial success; and f) it does not have sufficient funds for administration, promotion, monitoring and evaluation.

21. The program, and particularly the PROSOFT Fund, needs to transition towards a self-sustaining initiative, led by the industry and with smaller subsidy components, in order to create an environment that would support long-term growth.

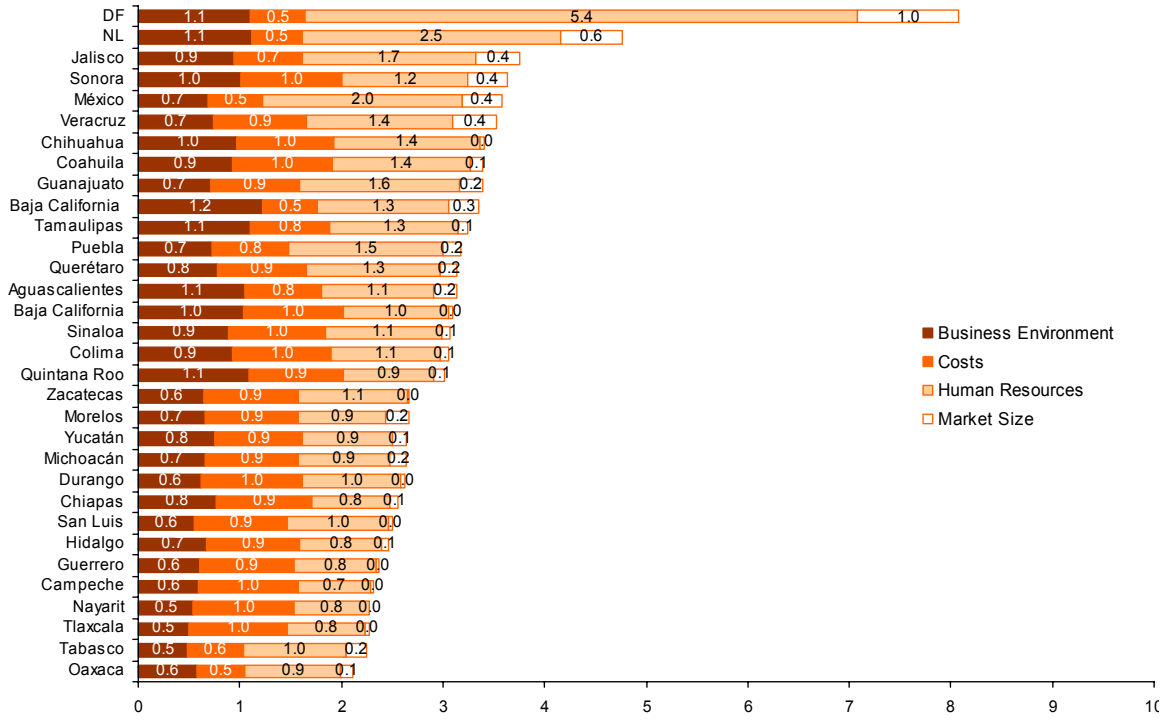
The Study: Development of an IT and ITES Services Industry in México

22. In order to improve PROSOFT to foster the development of the IT Industry, the Mexican Government (GoM) requested the Bank to carry out a study of the IT and ITES Industry Sector in México. The Bank accordingly engaged AT Kearney to conduct a study on the "Development of an IT and ITES services industry in México" using FMTAAS funds.

23. The Study took a disaggregated view of the potential for developing the IT/ITES sector in different states of Mexico. The Study found that even though Mexico ranks No. 10 in the world

in attractiveness, there are important disparities among Mexican States. Figures A1.5 and A1.6 show the rankings for Mexican States in IT services and Business Process Outsourcing, respectively[42]. Additionally, the Study specifically focused on incremental opportunities to boost the current IT/ITES industry growth in 5 states of Mexico.

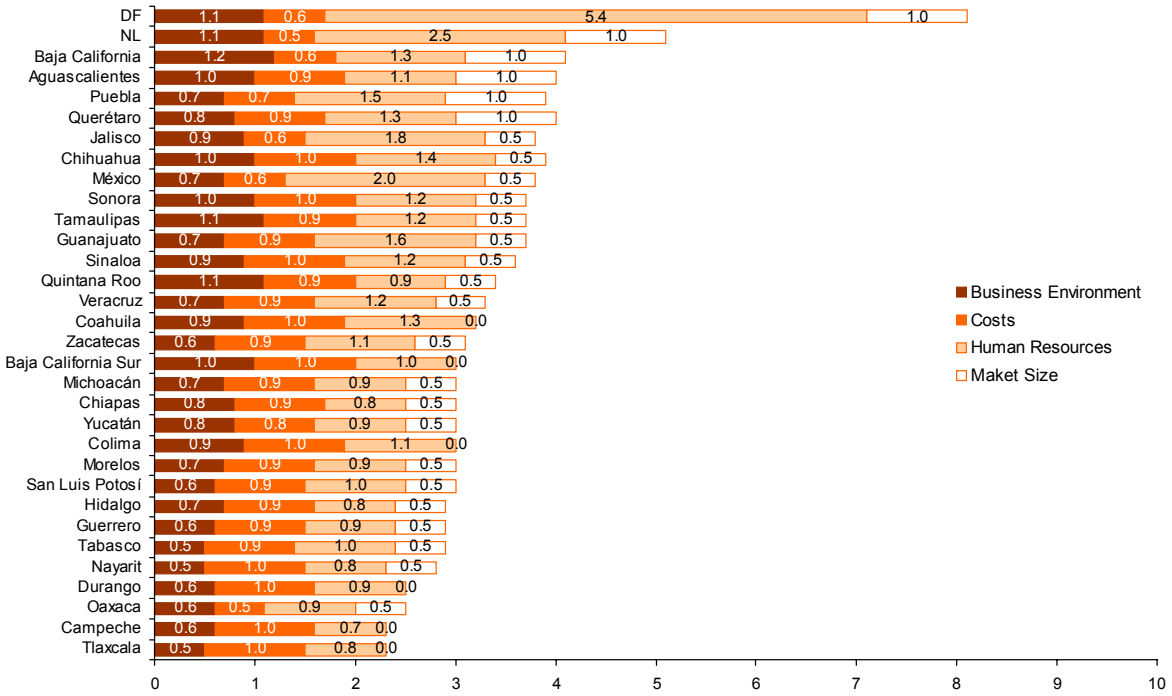
Figure A1.6 States Ranking for IT services



Source: AT Kearney, 2007

[42] As mentioned before, the skills required for each type of service (IT or ITES) is different, and hence States may be positioned to better serve one over the other. Source: AT Kearney.

Figure A1.7 States Ranking for BPO Services



Source: AT Kearney, 2007

24. The Study identified six different constraints that are currently hindering the industry from increasing its growth rate, namely: 1) lack of qualified manpower under a high-growth scenario, both in terms of quality and quantity; 2) weakness or absence of IT clusters at State level; 3) lack of financing for IT/ITES companies; 4) lack of support infrastructure in the form of technology parks for small and medium companies; 5) absence of the IT sector participation in Government services; and 6) weaknesses in the policy, legal, and regulatory framework.

25. Additionally, the Study also developed specific investment plans for five different States, namely Nuevo León, Jalisco, Querétaro, Coahuila and Zacatecas. Table A1.1 shows the main recommendations from this analysis. The proposed Project stems from the conclusions of this Study.

Table A1.1 Required Investments for Selected States

State	Type of State	Study objective	Target market	Expectation	Implications	Jobs and revenue generation by 2010	Priority initiatives	Required investments (in 4 years)
Jalisco	• Skills to compete and articulated IT strategy under implementation	• Complement current IT strategy with ITES	• IT and ITES integrated suppliers (full services range)	• Hemispheric leadership in the attraction of integrated providers	• Establish 5 large providers and 6 medium sized providers	• 6,800 new jobs • Additional US$ 272 million	• Strengthen promotion team within Science and Technology Council • Supply HR demand • Technological park for integrated suppliers	• US$ 26.2million
Nuevo León	• Skills to compete and ample articulated strategy under implementation	• Focus strategy in advanced IT	• Advanced IT focused in automotive, health care, home appliances and financial services industry	• Advanced TI hemispheric leader for automotive, health care, home appliances and financial services	• Establish 5 large IT companies focused in key industries and 10 – 15 medium and small companies	• 5,000 new jobs • Additional US$ 275 million	• Promotion agency creation under TI Industry Council • Incentives for managerial and technical HR training • CMMI certification program	• US$ 36.5 million
Queretaro	• Skills to compete and articulated strategy under implementation	• Devise focused strategy to ensure sustainable growth	• Bilingual technical support services	• One of the three leading destinations in the hemisphere for bilingual technical support services	• Establish 3 to 4 large companies and generate business equivalent to 10 medium and small companies	• 5,850 new jobs • Additional US$141 million	• Promotion team strengthening and focus • Increase HR supply in a sustainable way • Complete technological park	• US$ 20.1 million
Coahuila	• Skills to compete but without articulated strategy	• Devise strategy	• Basic and medium IT • Basic and medium ITES	• IT and ITES preferred provider for local industry of NL and Coahuila-Detroit corridor	• Establish 4 large companies and from 5 to 7 medium and small	• 2,900 jobs • US$ 117 additional million in 2010	• Create promotion agency • Improve HR quality and availability (English in particular) • Technological park	• US$ 18.5 million
Zacatecas	• Need to develop skills to compete and IT articulated strategy	• Complement current IT strategy with ITES	• Basic and medium ITES	• Preferential outsourcing supplier for firms in Mexico expanding operations; then US and Canada	• Establish 5 large companies and six medium companies	• 2500 new jobs • Additional US$ 50 million in 2010	• Strengthen promotion team under Develop. Sub-Ministry for IT • Training incentives for anchor companies • Technological park	• US$ 4.7 million

Annex 2: Major Related Projects Financed by the Bank and/or other Agencies

MEXICO: Information Technology (IT) Industry Development

The project would complement the Innovation and Competitiveness Project (P089865).

	Innovation for Competitiveness Project
General	
Industry Scope	Multiple industries (focus on R&D activities)
Amount	$250 million
Counterpart	CONACYT
Beneficiaries	Universities, R&D departments of all industries, new patents-based start-ups, master and doctoral students with an R&D profile.
PDO	Support Government's efforts to improve the competitiveness of the Mexican economy by strengthening the innovative capacity of the private sector, accelerating advanced human capital formation, and increasing the international integration of the innovation system.
Geographical emphasis	None (Federal District and States with high R&D activities)
Activities and/or Components	
Policy	Governance and Policy Development: policy background work and consolidation of an OECD standard level national M&E system, promotion and diffusion activities to assure enough outreach to potential beneficiaries, particularly those outside the Federal District.
Strengthening of Public Agencies	Consortia and Research Networks: support linkages between groups of enterprises with R&D capacity, and public R&D centers
Development of Human Resources	CONACYT program to finance scholarships for excellence and relevance, supporting graduate studies at doctoral, master and specialization levels. Researchers and Technologists in Industry: Labor market insertion program, aimed at beneficiaries of the scholarship program.
Financing	Private-Public venture capital funding (CONACYT - NAFIN), pre-Competitive fund (transform scientific and technological developments in viable high value products and services), Sectoral Fund for economic development (provides matching grants to SMEs).

1. Even though the Innovation for Competitiveness project has a broader objective, focusing mainly on research and development (R&D) activities and promotion, many of its elements complement the IT Industry Development Project.

2. The national Monitoring and Evaluation system and its promotion among all stakeholders would be a critical input in measuring the success of the IT industry development project. Moreover, a subset of IT Clusters supported by PROSOFT (especially, those that have high concentration of R&D activities) could benefit from the Consortia and Research Networks.

3. Finally, available scholarships and funding for start-ups are beyond the scope of the IT Industry Development Project. Nascent innovating companies in the IT space would definitely benefit from these initiatives.

4. The IT Industry Development Project has been in constant coordination with the Innovation for Competitiveness Project throughout preparation and would remain building synergies with each other.

Annex 3: Results Framework and Monitoring

MEXICO: Information Technology (IT) Industry Development

Results Framework

PDO	Project Outcome Indicators	Use of Project Outcome Information
The objective of the Project is to assist the Government of Mexico to implement an alternative strategy for PROSOFT to foster the creation of jobs in Mexican IT Companies by improving their competitiveness and efficiency through access to: (a) a larger supply of trained personnel; (b) technologies, quality standards and global marketing networks of multinational corporations; and (c) private debt finance.	1. IT/ITES jobs created by the IT Industry as a result of training programs (jobs) 2. IT Companies' satisfaction rating with the IT Links Program (percentage of good and better responses) 3. Increased overall debt portfolio of IT Companies in the financial system (US$ million)	To evaluate the impact of the Project on the IT Industry in México.
Intermediate Outcomes	**Intermediate Outcome/Output Indicators**	**Use of Intermediate Outcome Monitoring**
Component 1: Human Skills Development	Number of certificated persons from MexicoFIRST	To determine if the training programs are effective
Component 2: Strengthening IT Clusters	Number of companies associated to the IT.LiNKs program	To determine the effectiveness of the program in attracting MNCs that want to cooperate with SMEs
Component 3: Financing of the IT industry	Number of IT Companies that participated in the Accreditation Program	To measure success of Accreditation program and capacity building among financial intermediaries
Component 4: Supporting Infrastructure	Number of IT Park's projects supported by technical assistance and/or infrastructure	To measure success of development of IT Parks
Component 5: Outsourcing of Government Services	Number of Government entities trained and number of feasibility studies.	To measure attractiveness of model among government entities and/or practical bottlenecks in implementation
Component 6: Legal and Regulatory Framework and Institutional Strengthening	Number of regulations affected by the project (new or changed)	To determine is this component had an impact on the reform of the Legal and Regulatory Framework.

Arrangements for Results Monitoring

		Target Values*					Data Collection and Reporting		
Project Outcome Indicators	**Baseline**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	**Frequency and Reports**	**Data Collection Instruments**	**Responsibility for Data Collection**
1. IT/ITES jobs created by the IT Industry as a result of training programs (jobs) 2. IT Companies' satisfaction rating with the IT Links Program (percentage of good and better responses) 3. Increased overall debt portfolio of IT Companies in the financial system (US$ million)	0 - 5.8	1,000 -- 6.8	5,000 50% 7.5	10,000 60% 10.0	15,000 70% 15.0	20,000 75% 20.0	Yearly	SNIITI/PROSOFT Statistics	Dirección General de Comercio Interior y Economía Digital (DGCIED)
Intermediate Outcome/Output Indicators									
Component 1. Number of certificated persons from MexicoFIRST	-	1,500	7,500	15,000	22,000	30,000	Yearly	MexicoFIRST Statistics	MexicoFIRST
Component 2. Local companies associated to the IT.LiNKs program	-	5	15	30	50	75	Yearly	MexicoFIRST Statistics	MexicoFIRST
Component 3. Number of IT Companies that participated in the FIT Accreditation Program	--	--	30	80	150	250	Yearly	SNIITI/PROSOFT Statistics	DGCIED
Component 4. Number of IT Park's projects supported by technical assistance and/or infrastructure	-	0	1	2	3	4	Yearly	SNIITI/PROSOFT Statistics	DGCIED
Component 5. Outsourcing of Government Services 1. Government entities** trained 2. Feasibility studies	- -	- -	3 1	6 2	8 3	10 4	Yearly	SNIITI/PROSOFT Statistics	DGCIED
Component 6. Number of regulations affected by the project (changed or new)	-	-	-	8	15	30	Yearly	SNIITI/PROSOFT Statistics	DGCIED

*** Indicators are annual and accumulative**
**** Level of government entities: Federal Government and Public Enterprises as well as State and Municipal Governments**

Annex 4: Detailed Project Description

MEXICO: Information Technology (IT) Industry Development

Component A: Human Skills Development

Introduction

1. The availability of skilled manpower is the single most important factor for attracting investments and developing the IT/ITES industry in México. The demand for talent is far outstripping supply. Even a country like India which has the third largest higher education capacity in the world and produces 2.5 million graduates every year, will need an additional 500,000 professionals just to maintain its share of the global offshore IT and BPO industries[43].

2. México produces approximately 380,000 graduates every year (2006) of which 19.69%[44] are engineers. However, the suitability of its graduates for employment in the global service industry is low. It is only 20% for engineers, 25% for finance/accounting and 11% for generalists[45]. A recurring theme is the lack of English language proficiency particularly for those who need to work closely with colleagues and customers in markets like the US. The aim of this component is therefore to improve the employability of graduates by taking up focused training initiatives in specialized niches, and imparting English language training.

3. At present México does not have a brand for any specific industry domain competency. It would therefore be important to adopt a multi-pronged strategy to systematically develop México's talent pool. México needs to establish a clear, differentiated and leading position as a source of high-quality skilled manpower. The project focuses on the following components in the near, medium and long-term:

MexicoFIRST (México Federal Institute for Remote Services and Technology):

4. Development of skills for the IT/ITES industry require strong linkages between academia, companies, associations, standards organizations, private sector training institutions and the government. In an increasingly globalized and networked world, it is important that skill development initiatives linkup with best-in-class skills providers across the globe. For example, the Customer Operations Performance Center Inc. (COPC) is the world's leading authority on operations management and performance improvement for contact centers. Carnegie Mellon's Software Engineering Institute is a world leader in standards like CMMI[46] and has developed a range of programs including those relating to improvement of Personal and Team Software Processes. The Project Management Institute's, PMP[47] professional certification is recognized globally. Accenture has recently tied up with the MIT's professional education program to

[43] Nasscom McKinsey Report 2005.
[44] Sistema Nacional de Indicadores de la Industria de Technologías de Información: Situación actual de la Industria de Technologías de Información en México – Enfoque de Capital Humano (May 2007).
[45] McKinsey Global Institute, 'The Emerging Global Labor Market: The Supply of Offshore Talent in Services (June 2005)."
[46] Capability Maturity Model Integration (http://www.sei.cmu.edu/cmmi/general/).
[47] Project Management Professional

develop the Accenture Solutions Delivery Academy, a new training and certification program based on the company's application delivery curriculum[48]. Some of the states in India like Andhra Pradesh have tied up with companies like Linguaphone for the development of English language skills. The Technical Education and Skills Development Authority (TESDA) in the Philippines has facilitated tie ups between companies like Converges and the Department of Education, for English language training. NASSCOM in India tied up with Hewitt Associates for designing a NASSCOM Assessment of Competency (NAC) program focused on the BPO sector. The Penang Skills Development Center (PSDC) in Malaysia established in 1989 and located in the Free Industrial Zones of Penang, has been Malaysia's first industry-led training center. The PSDC is structured as a nonprofit society and conducts a number of IT related courses. These examples illustrate attempts by different governments, organizations and associations to forge partnerships in order to make educational/training programs more responsive to the needs of the IT/ITES industry.

5. México established MexicoFIRST as a non-for-profit organization with leading industry associations as partners. Since this is likely to be one of the first such initiatives globally, it might be possible to attract some of the leading players in the industry to participate in the initiative. One of the top strategic management consulting firms would be engaged under the project for putting together a global network of partnerships relevant to the development of human resources for the IT/ITES sector in México. A possible model could be the IIITs in India which have partnered with private sector companies for setting up schools focused on specific competencies for the IT industry.

6. As part of the partnership, government would bring in necessary infrastructure and initial seed funding. The establishment of faculties focused on specific domains in the IT/ITES sector would be left to the private sector. The business model for the Institute would involve generating revenues through provision of certification, mentoring programs, training of trainers and providing consultancy services to academic institutions so as to ensure sustainability.

7. Investments anticipated for establishing MexicoFIRST and making it operational and operational expenses are provided in Annex 5. The proposed phasing is premised on the expectation that the private sector collectively would contribute an increasing proportion of MexicoFIRST's running costs. Part of the training costs would also be met from out of the resources provided by the State Governments and by individual companies.

[48] http://web.mit.edu/newsoffice/2007/accenture.html

English Language Skills for the ITES Sector

8. It is well recognized that a generic set of skills[49] is required for employment in the IT/ITES sector. Language proficiency is one of the most important among such generic skills. English language proficiency in particular can open up a range of business opportunities in the IT/ITES sector for México. The feedback obtained from the industry has been consistent in identifying English language skills as a distinct area requiring improvement.

9. The Secretaría de Educación Pública (SEP) has an ambitious program of training 1.5 million students in English language skills over the next five years. The present project would help SEP in launching an initiative for imparting English language skills for 20,000 professionals for potential employment in the contact center industry. The idea behind this initiative is to train a large number of people in English language skills that would be immediately available for employment in contact centers, but would also come in handy as a skilled resource for a range of BPO services.

10. The project would provide assistance for infrastructure like language training laboratories and would also fund training the trainer programs. The initiative is proposed to be established as a public private partnership with private sector training companies being incentivized to provide training. The quality and value of the training program could be ensured by adopting a business model whereby the revenues of training companies are linked to successful employment of their students in the industry.

English Language Skills for the IT Sector

11. A focused initiative for improving English language proficiency among engineering students in México would also be taken up. This initiative would involve faculty training and taking engineering students through a finishing school for soft skills.

12. The Project would finance:

(a) Technical assistance to start up MexicoFIRST, establish global alliances for the Institute, recruit its key staff, design the first year programs and cover its operational costs until the institution becomes self-sustainable; and
(b) Training grants for technical, managerial, and English courses, certifications, seminars and workshops for faculty, students, industry professionals, and potential recruits for the IT Industry.

[49] Soft skills: Communication, language, accent, comprehension, cultural affinity, presentation, team work, leadership, global awareness.
Cognitive skills: math, reasoning, problem solving, analytical skills, accuracy, ability to concentrate, adaptability.
Computer skills: Keyboarding, internet surfing, desktop applications.

Component B: Support to IT Clusters

13. This component is aimed at assisting: (a) IT companies nationwide in getting more exposure to international markets through linkages with leading global companies; (b) IT Clusters to implement their strategies (such as those in Jalisco, Nuevo León and Querétaro); (c) IT Clusters that have not developed their strategy, but are located in States that have resources to develop the industry; (d) IT companies, through the financing of internationally recognized certification programs (such as CMMi).

14. The component would include four sub-components:

(a) Creation of the IT Linkages Network Program (IT-LiNK Program) to link Mexican IT companies with leading IT multinationals (MNCs) that possess state-of the-art technologies and international marketing networks. Through these partnerships, local enterprises benefit from the exposure to world-class, cutting-edge technologies and international marketing expertise, while MNCs benefit from a wider range of products and applications developed on their platforms. The connection with multinational players would help build capacity within Mexican companies and assist in their penetration of overseas markets.

The IT-LiNK program is designed on the InfoComm Local Industry Upgrading Program (iLIUP) started in 1995 as part of the Singapore InfoComm Development Authority (IDA) plan to encourage the development of innovative products and services by promoting partnerships between Singapore IT enterprises and MNCs. Since iLIUP's inception 38 MNCs and more than 380 Singaporean companies have participated and benefited from the program. MNCs participating in the program include companies like Apple, Borland, CISCO Systems, Hewlett Packard, IBM, Microsoft, National Computer Systems, NEC, Oracle, SAP, and SUN Microsystems. For each MNC partner iLIUP supports a dedicated manager to develop partnerships with local infocomm enterprises and ensure their success.

The IT-LiNK Program would be financed by the PROSOFT program through the project, and would be managed and implemented by CANIETI / AMITI, in coordination with MexicoFIRST. Both IT-LiNK and MexicoFIRST would benefit from the Chief Executive of MexicoFIRST, a person who would have considerable international stature and the ability to build key global alliances. In addition, each manager with IT-LiNK, preferably a Mexican national, would be hired much on the lines of the dedicated manager under the iLIUP program.

During the first couple of years, this program would fully finance and support linkages with 5 leading IT MNCs, and after the third year the number of MNCs would increase to 10, with the local IT industry financing 50% of the cost. Upon completion of the project, it is expected that the whole program would be financed by the local IT industry.

(b) Support to existing IT Cluster organizations. Participating IT Clusters in States that have adequate resources, would be supported through development programs and promotion strategies aimed at attracting global leaders in the IT and ITES sectors to their States.

The team in charge of the promotion and development of the local IT industry would work closely with the Federal Government México IT initiative, the State Government, but would also include members of the industry and the academia, using staff from MexicoFIRST as needed. This team would be in charge of promoting their State in global trade events, attract MNCs to their State, look for ways to meet the requirements of the MNCs, implement local programs, and maintain the quality and quantity of resources available for the IT/ITES industry.

The project would finance a team of consultants that would assist with the implementation of these capabilities in IT Clusters and in coordination with existing State agencies.

(c) Dissemination and awareness of benefits from increasing IT expenditure among local firms. The IT industry in Mexico as a share of GDP (3.1%) is well below other Latin American countries (5.3% average), suggesting that businesses in the country do not reap all the benefits that information technology could bring to their production processes. On top of this, it is estimated that 65% of the domestic software market in the country could be outsourced.

The project would finance dissemination workshops with leading Mexican companies in close coordination with IT Clusters, promoting the use of IT in business and production processes and raising awareness on the benefits of outsourcing. These workshops would be conducted at the State level in close coordination with IT Clusters, and would present successful case studies from other locations documented by the program, and would also help disseminate the benefits of the PROSOFT program among a new audience of traditional business companies.

(d) Certification Programs: This component would finance internationally recognized certification programs through issuing certification grants to IT companies (members of IT clusters), contributing to the improvement in quality of the products and services of the participating companies.

Component C: IT Companies Financing

15. The IT industry in México, particularly the SME segment, faces greater financing constraints than other sectors, mainly due to the fact that IT companies cannot provide real collateral and that the sector is new and financial companies have limited information on it and perceive it as a high risk. The Investment Climate Assessment indicates that on average external financing for working capital is 14.4 percent compared to 22.2 percent for enterprises in other services sectors.

16. To address these gaps and facilitate ICT financing, the SE has developed a guarantee program (Ps. 64 million) in collaboration with NAFIN, a second-tier development Bank. The program helps enterprises develop a credit history and enhance their future financing prospects. The program was launched in late 2006 and to date one financial intermediary (FI), a SOFOL, is participating in it. The portfolio performance has been very favorable, and the SE would like the program outreach to expand to other FIs and to cover more ICT companies.

17. To complement this initiative, the project would finance:

a. Technical assistance to FIs and Banks to develop the capacity to appraise IT projects and IT companies;
b. Technical assistance to design the Financing of IT Companies Accreditation Program "FIT" that would improve management, project management and implementation capacity of IT companies, including the selection of a reputable Business School to manage the program; and
c. Accreditation Grants to IT companies to participate in the FIT Program.

Component D: IT Parks

Introduction[50]

18. Innovation has been one of the primary drivers of economic development across different countries. It has been at the core of new business opportunities in a world that is rapidly shifting from resource-based economies to those that are focused on the management and application of knowledge. Innovation, more than the application of labor and capital, has been the major driver of knowledge economies. It accounts for more than half of all growth in modern economies.

19. Science and Technology Parks, typically involving tertiary institutions or other research organizations, have become an established part of the innovation infrastructure in many economies. They represent an economic development tool that is particularly suited to developing regional knowledge economies. In appropriate regional environments, these parks have been found to provide a specialist mechanism to promote and stimulate commercial and industrial innovation, encourage re-industrialization and foster sustainable regional development infrastructure options.

[50] Most of this section is from "International Best Practice for establishment of sustainable IT Parks - Review of experiences in select countries, including three country studies" March 2007, Price Waterhouse Coopers, InfoDev.

20. Given the high innovation content in the IT sector, it is therefore not surprising that most of the successful countries in the sector have focused on setting up science and technology parks for developing the sector.

21. While the nomenclature (for example, Science Park in the United States, Europe, Singapore; Technopolis in South Korea, IT Park in India etc.) and models of development may have been different, the underlying principle has been common, namely to seek synergy and exploit advantages through networking of different market participants like IT companies, Universities and research & development institutes, infrastructure service providers, etc.

22. One of the earliest initiatives in IT Park development was undertaken in the United States more than 50 years ago, when a Science Park was created in the Stanford University campus. Besides Science Parks being established in the academia environment, IT clusters also developed with organizations establishing mutual linkages amongst themselves with the Silicon Valley being the example of one of the highly acclaimed IT habitats in the world which has inspired the setting of IT Parks all across the world.

23. The developing countries have increasingly relied on IT parks as a preferred tool for promotion of IT industry. These countries are often constrained by severe infrastructure limitations. It is easier to provide world class infrastructure in select areas. The developing countries like India and China have concentrated state of the art physical, communication and social infrastructure in IT parks to enable IT companies to operate. On the other hand, developed countries like Korea, Japan and others are often driven by the need to develop new technologies through networking between companies, research & development institutes and centers of excellence.

Past Experience on IT Parks

24. Past experience shows that the following factors are critical to the success of IT Parks:

a. Capital and Management

While the ownership of IT Parks may be in either Government, Joint or Private sector, it is essential that the management of the IT Parks is with the private sector given the private sector's operational flexibilities and ease of decision making as compared to the requirement of adhering to rules and regulations applicable to Government entities

The success of an IT Park in attracting IT companies to occupy space/ facilities within the park is largely dependent on the reputation and credibility of the anchor tenant. Though the IT Park developers have to offer various concessions and incentives in terms of subsidized rates, usage fees and preferential treatment, having a globally reputed IT company as anchor tenant results in other smaller players. The reason being that these smaller players are attracted to the park with the knowledge that the IT Park must have world class infrastructure and facilities to be able to attract an IT player of repute as an anchor tenant. IT Parks like Hitec City India and Singapore Science Park have been able to market the park to occupants based on the strength that reputed

organizations like Microsoft, Oracle Corporation and DNV were already present in the park as anchor tenants.

Angel investment, venture capital and private equity have been identified as key enablers, specifically for development of start-ups and small and medium enterprises. Consequently, in countries like South Korea and China where the presence of global angel investors / venture capital / private equity funds is limited, IT parks like Teadok Valley and Zhongguancun Science Park (ZSP) have set up their own dedicated venture capital funds, usually administered by Government agencies / bodies.

IT Parks offering incubation services help nurture entrepreneurship and development of the SME sector in the local economy and the IT Parks gain when these operations scale up to become regular occupant. An example is ZSP in China, which offers specialized incubator services for overseas Chinese IT professionals seeking to return to China, which has resulted in over 450 start up entities.

b. Linkages

Close working relationships with academic institutions like Universities and colleges, R & D institutes etc. are essential for parks like Taedok Valley, Singapore Science Park and ZSP, where the primary focus of some key occupants is on technology innovation in the areas of EDP equipment, telecommunications, integrated circuits and electronic components.

On the other hand, such linkages are usually not as critical in IT and BPO Services where innovation requirements are usually based on service delivery around existing software and hardware products and most market leaders possess the requisite competencies in-house. However, for both the above categories of companies, availability of quality manpower resources is key to success and hence dictates the performance of the IT park. Consequently, many of the IT parks have been set up in close proximity with prominent academic institutions, centers of learning. In addition, factors like existing infrastructure and amenities, employment regulations etc. play a key role in attracting the right competencies from other locations.

c. Infrastructure

It is amply clear from the case studies that physical infrastructure like roads, urban infrastructure and social amenities for recreation, sports etc., proximity to airports and virtual infrastructure in terms of state-of-art data and voice connectivity are important. While they may not serve as competitive differentiators as far as IT Parks are concerned, they are absolutely essential prerequisites. In fact, weaknesses in this area have been identified as one of the primary reasons for the underperformance of the IT park at Hubli, India.

d. People

Availability of qualified and skilled manpower is essential requisite for the success of any IT Parks in attracting IT players as occupants. IT Parks, especially in developing countries like India, China and Malaysia have the capacity to generate employment for the educated population in local economy leveraging the low cost of skilled human resources as compared to developed countries.

Proposed Component Description

25. This component would finance the creation of several IT Parks under the modality of Public-Private-Partnerships (PPP). The exact location of the IT Parks is still not determined, however, it is expected that they would include the proposed Chapala Park in the State of Jalisco (near Guadalajara) and the City of Knowledge Park in Monterrey (proposed II Stage). The Chapala Park studies are beginning and the Government of Jalisco is considering donating the land to the Project. In the case of City of Knowledge, the I Stage is under construction, and the majority of the sites have been sold. The Project would include the II Stage which is an extension of the current Park.

26. Under the PPP approach, the Cluster of the respective State would issue an international invitation to bid, based on the following principles:

1. The PPP capital should be majority private, minority Government.
2. The Cluster invites a Real Estate Developer with ample experience in the construction of I T parks to participate.
3. The Developer would take the majority of the risk in selling/renting the facilities in the Park.
4. The Park would include space for IT Industry, large and small and medium enterprises, Academia, and Services, including the space for the IT Cluster Promotion Offices.
5. The best offer would be the one that commits to invest more private capital, and meet the construction program (this includes the selling/rental of the lots/buildings to third parties.

27. The Project would finance:

a. The Technical Assistance needed for the preparation of the Feasibility Studies, and the International Bidding specifications for selected IT Parks on a PPP structure, and
b. The portion of the resources that the Federal Government would contribute to each PPP.

Component E: E-Government Services Outsourcing

28. The objective of this component is to help achieve the larger goal of IT industry development in México through the introduction of new and innovative approaches in the area of e-government. As such, it includes two key elements: (i) deployment of public private partnerships

(PPPs) with risk mitigation strategies, through demonstration e-government projects; and (ii) establishment of an Integration Competency Center (ICC).

29. This project is intended to strengthen México's IT industry in general and the SME segment in particular, while enhancing the quality of government service delivery, increasing transparency and improving internal efficiencies. This component would build upon and coordinate with other components of the project - in particular the Human Resources and IT clusters components to ensure that the desired goals of the project are fully supported.

30. The Mexican IT infrastructure outsourcing services market has seen significant development recently and has emerged as the second largest market in the Latin American region. The market aggregated revenues worth $464.4 million in 2006[51], benefiting hugely from the increasing awareness of the benefits of outsourcing IT infrastructural services. Outsourcing has now been given a further boost by the austerity decree established by President Felipe Calderón in December 2006 which, among other things, mandates outsourcing of all IT services to the private sector by government entities.

31. The subcomponent would fund consultancies, infrastructure e.g. application testing tools, enterprise service bus and initial costs of hiring specialized staff.

32. Public private partnerships (PPPs) can expand opportunities for the private sector, reduce investment risk for governments and provide incentive mechanisms for rapid deployment of e-government services. The benefits of PPPs include: (a) increasing quality, reducing cost of service, increasing access (beneficiary: constituents), (b) sharing the operating risks (beneficiary: government), (c) freeing up government resources by reducing the financial and administrative burden of providing the service (beneficiary: government), (d) strengthening local technology capacity (beneficiary: private sector), (e) improving transparency and accountability (beneficiary: constituents and government) and (e) increasing opportunities overall for growth in employment and increase in FDI (beneficiary: country).

33. At present the use of PPPs is not much in evidence in the area of e-government in México. Consequently there are capacity constraints in designing and implementing PPP approaches for the delivery of e-government services. Such capacity is needed in the areas of re-structuring, risk management, financial management, procurement, and legal and regulatory frameworks. It is therefore proposed to pilot PPP approaches in a small number of demonstration projects, so that decision makers in government become familiar with the issues and processes for successfully implementing e-government PPPs.

Subcomponent 1: Public Private Partnerships for e-Government – Legal and Regulatory Framework

34. In general, Mexico possesses an established legal environment that allows public private participation and collaboration. This environment includes laws governing concessions and/or privatizations, clear processes for dispute resolution and the ability to enforce contracts, as well

[51] *The Mexican IT Infrastructure Outsourcing Services Market Aggregated Revenues Worth $464.4 Million* in 2006 Business Wire August 7, 2007 Tuesday 5:32 PM GMT

as lender remedies under bankruptcy and insolvency. Although most of Mexico's PPPs deal with infrastructure, the Mexican Government recognized the provision of services by the private sector. The so-called Project for the Supply of Service model was introduced in Mexico as a means of achieving the objectives of sustainable development that are stated in the National Development Plan. Even though all procurement contracts require an internal governmental and budgetary approval, the PPPs must pass a specific and rigorous criteria mentioned under the Rules and the Guidelines, consisting mainly of a cost-benefit analysis at a profile level and at a pre-feasibility level. The process seeks to address and ensure that the PPP option is less costly to government than a regular procurement contract funded through direct payment of capital expenditures in the federal budget. However, this regulation is complex and discourages civil servants from using PPPs for Government services.

35. The Project would finance technical assistance to review the legal and regulatory framework of PPPs for government services and propose changes and/or new regulations and rules to streamline the outsourcing of government services to the private sector.

Subcomponent 2: Feasibility Studies and Bidding Specifications

36. Two potential e-government PPPs have already been identified at the Federal level. It is proposed to identify one or more PPPs at the State/local level for decentralized impact. The PPPs identified at the Federal level include the current e-procurement system – Compranet that is managed by INFOTEC, and the modernization of the Secretaría de Economía IT systems. An important prerequisite for PPPs to succeed is the presence of strong leadership and stakeholder ownership. The Secretaría de Función Pública is keen to entrust Compranet to a private sector partner. Similarly the Secretaría de Economía has displayed strong intent to adopt a PPP approach for its modernization program.

37. Compranet has been developed by México's Secretaría de Función Pública and provides a platform for the procurement of goods, services, leases and public works for the federal government and participating Mexican states. Under existing Mexican legislation all federal agencies must post calls for bids, terms, notes, results and contracts relating to their procurement on Compranet. The system allows users to track government spending on specific goods and services, and find information on public agencies engaging in procurement, bidders, winners, and any protests logged.

38. The use of PPPs in public procurement is now a well established model. For example, Chile Compra is an example of a successful PPP in the area of e-procurement. It was built using a Design, Build and Operate model with a concession period of 15 years in partnership with a consortium of SONDA, Microsoft and Compaq. SONDA made all the initial investments toward the development of the portal. The company is also responsible for all the recurring investments toward maintaining the portal. The returns to SONDA are in the form of a share of the fees charged to suppliers (per transaction) into the portal. Another example of a PPP in the area of e-procurement is the Andhra Pradesh e-procurement system which is a partnership with Commerce One and has recently won the United Nations Public Service Award for 2007.

39. The Secretaría de Función Pública is keen to partner with a private sector entity for modernizing, maintaining and enhancing the array of services offered on Compranet.

40. The Secretaría de Economía had identified the following needs for its own modernization:

- Integrating 250 systems currently with the ministry
- Developing a one stop web based application for the private sector starting in the first instance with imports/exports
- Upgrading the existing CRM system
- Improving its existing portal and providing mobile phone access to information and services

41. The subcomponent would fund: (a) the initial feasibility studies for PPPs; and (b) in case the PPPs are found to be feasible, the subcomponent would finance the design and bidding specifications preparation for the PPPs to outsource Government services to IT Companies.

Subcomponent 3: Training of Government Officials on the Use of PPPs for Outsourcing of Government Services

42. Government officials lack knowledge on the preparation of bidding specifications, design of contracts, and supervision of PPPs for Government Services. This component would provide training of Government officials to use PPPs effectively to outsource Government services.

Subcomponent 4: Integration Competency Center

43. In order to successfully carry out outsourcing to the private sector, it will be important for GoM to have internal competencies to effectively manage this process. It is proposed to house some of these competencies in an Integration Competency Center. The ICC would serve as a national resource for supporting México's e-government initiatives.

44. The relevance of an ICC in the context of e-government in México can be illustrated from the existing weaknesses in dealing with cross-cutting issues like interoperability. At present GOM does not have an interoperability framework in place to guide the development of e-government applications. This has meant a silo approach to e-government, which would progressively become a serious bottleneck in integrating disparate applications, across various government agencies. It is important for GoM to strengthen institutional structures for providing cross-cutting oversight and support in the design and deployment of e-government applications to prevent waste and avoid duplication. An ICC could prove extremely useful in dealing with such issues. An ICC could help government agencies and private sector players to adopt a flexible, agile and highly modular approach to e-government services.

45. Some of the important competencies that could be included in an ICC together with their rationale both from the perspective of the Government and of the IT industry can be seen from the table below.

Table A4.1 : Rationale for an Integration Competency Center

Competency	Rationale for Government	Rationale for IT industry
Enterprise architecture	e-Government applications can be designed in a modular fashion so as to allow reuse of services avoiding waste and duplication	- Smaller companies would find it easier to participate in the development of e-government applications, through access to reusable components and services
Interoperability and standards	Important for ensuring that different e-government applications can talk to each other, thereby avoiding waste and duplication	- Levels the playing field and allows smaller companies to bid for projects using open standards - Creates synergies across disparate projects allowing different IT players to collaborate
IT Security	Government data can be secured and compliance ensured with privacy requirements	- Adherence to security requirements builds capability of the private sector to deliver secure products and services
Application testing and quality assurance	Integration and application development risks can be reduced for Government agencies	- Solutions and applications developed by smaller companies can be more credible - Application deficiencies can be tackled early-on reducing subsequent costs
Technology tracking	e-Government applications can benefit from the latest technologies	- Smaller companies get an opportunity to work on cutting edge technologies
Business Process Management	Deployment of technology can be accompanied by process changes to have greater impact	- Companies need to deal with simpler processes, reducing cost and time for application development
Contract and IP management	Government interests are secured through better contract management and safeguarding of Government IP	- Brings greater clarity and transparency to government procurement - Levels the playing field for IT companies

46. The ICC would moreover facilitate the adoption of the latest technologies and approaches in e-Government so as to position México at the cutting edge, and establish a leadership position for the country's e-government initiatives. As an IT organization, the ICC would be very different from traditional IT organizations in government. IT is no longer a back-office utility and is fast becoming indistinguishable from the business processes that it enables. The IT

organization of the future would therefore most likely have a greater focus on business processes, enterprise architecture and sourcing strategies. The ICC would accordingly aim at melding domain expertise with technology in each aspect of its functioning.

47. In order to safeguard government interests under PPP arrangements Infotec could also be the nodal organization for dealing with technology escrow arrangements for the Government of Mexico. Such an arrangement would provide access to source code and safeguard government IP in the event of contingencies like contractual defaults, or the private sector partner going out of business. A number of escrow arrangements are available in the market. These range from basic services like integrity testing to ensure that the material deposited is accessible, to full scale verification simulating a release event where the source code is built into the working system at the licensee's site.

48. A technology escrow arrangement wholly or partly subsidized by government, could also be used to provide a degree of comfort for bigger private sector players contracting the development of applications to smaller firms in México. In addition an escrow arrangement might be preferred by financial institutions financing SMEs in the IT sector.

49. In discussions with the Secretaría de Economía and the Head of e-Government and IT Policy in the Secretaría de la Función Pública, it was suggested that Infotec would be a good place to anchor the ICC, given its capabilities and its focus on e-government. Infotec is an autonomous organization that provides technical support to government departments in matters relating to IT. It also manages the Mexican E. procurement system – Compranet.

50. While deciding on where the ICC would be located, the project recognizes that it would be critical that the ICC should be an intrinsic part of the decision making apparatus for e-Government in México. Only then would the ICC be able to accomplish its objectives, and exert influence in the way e-government applications and services are designed, developed and deployed in México.

51. This sub-component would:

a. Finance technical assistance to design the ICC including defining its location, composition and recruitment of key staff, equipment and software tools needed, charges to the legal and regulatory framework if needed and its budget and implementation program for the first three years of operations; and
b. It would also finance the equipment and software needed to operate the center.

Component F: Legal and Regulatory Framework

52. It is generally accepted that high technology sectors do not flourish if they are left to market forces only. The IT-ITES sector needs a coordinated and proactive regulatory environment in which to grow. Although México benefits from a broad legal framework based on principles that seem not deter development of the IT-ITES industry, in some cases regulation of such principles

appears either outdated or not properly organized and/or implemented. The lack of or sometimes over-regulation of IT-related issues definitely discourages investment and increases transactional costs that ultimately impact upon industry and consumers. In addition, México's telecommunication regulatory framework does little to eliminate entry barriers and foster competition.

53. Active efforts from the government, academia, private sector and NGOs are essential for the establishment and harmonization of an efficient legal and regulatory framework. As such, México should raise awareness on new and existing policies and regulations in the ICT field, organize and modernize its comprehensive IT-ITES enabling regulatory and legal framework; build capacity on legislators, government officials, judiciary, academia, practitioners, law enforcement institutions and students in the regulatory treatment and legal interpretation of new technologies, and continue supporting regulatory promotion of e-commerce and online trust partnering with private sector and academia.

54. This component bases its activities on the following general principles: 1) the private sector should lead; 2) governments should avoid undue restrictions on the development of e-commerce and the IT-ITES industry; 3) where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, and consistent legal environment for commerce - supported by a modern and dynamic regulatory framework and independent regulatory authorities.

55. In order to tackle the above-mentioned issues, this component would finance the following activities:

a. **Technical Assistance.** Certain legislated and/or regulated ICT topics (i.e. definition of advanced electronic signatures and certain cyber crimes) have not only been addressed in Federal bodies of law, but also found spread in several state and sector-specific laws and regulations across México. The regulations are sometimes repetitive and overlapping. As such, interpretation of many ICT legal issues is prone to confusion due to involuntary creation of double and sometimes triple standards. It is important for México to update and improve institutional frameworks of regulators and draft specific ICT laws and regulations[52] according to best practice.

This activity would include a major study to harmonize advanced electronic signature laws and regulations at the Federal, State and Municipal levels including the drafting of a model electronic/digital signature law[53]; studies and model laws for Data Privacy[54] and cyber

[52] Continue improving legal frameworks and enhancing institutional capacity should facilitate business activities, ensuring fair competition, transparency, accountability and predictability.

[53] Advanced Electronic Signature definitions could be found at the Federal Level in the Commerce Code, but there are different definitions of advanced electronic signatures in many State and municipal regulations creating many different standards for non-commercial transactions, and thus increasing requirements and costs for certification authorities and users.

[54] An amendment to the Constitution is currently waiting to be approved at the Senate. Such amendment would allow data privacy to be treated as a Federal matter. Legislators could, after such amendment, enact a Federal data privacy law. At the same time, there are currently various groups interested in producing a Federal data privacy law; however industry, NGOs, and legislators are still unclear to which approach is optimal.

crime[55] studies at all levels (including enforcement and institutional arrangement issues in both cases); Specific labor and tax studies; studies on specialized courts and online conflict resolution systems (i.e. Intellectual Property "IP" courts and Consumer Protection Alternative Dispute Resolution "ADR" systems); and other technical assistance projects. This component would finance TA to improve and reform the PPP regulations, to simplify and streamline its use by Federal, State and Municipal Governments.

b. **Raising Awareness and Promotion.** Although comprehensive in some topics (i.e. Digital Signature), ICT regulation seems flawed in many other respects (i.e. Data Privacy, cyber crime, institutional regulatory frameworks). Furthermore, México does not follow a coordinated policy on ICT regulatory issues. Regulations on different issues are scattered in many different laws at state and federal levels, causing in some cases misinformation and regulatory confusion on both citizens and government.

Effective public policy for the Internet is based on a mix of laws, industry self-regulation and technical standards that give users control. Together, these elements create the policy environment supporting investment, innovation and growth. In terms of trust and security, this environment includes criminal law, privacy and consumer protection laws, and the commitment of industry to build and operate more secure systems.

The component would finance a public information campaign, aimed at different target audiences (including legislators, judges, industry, government, and practicing attorneys). The idea is to provide a higher and more accessible public profile to certain subjects, in order to benefit from a wider range of opinions. The project would finance focus groups, consensus building exercises, surveys, and other awareness raising methods. Only central issues and principles should be addressed, for example: Priorities for universal access, cross-subsidies issues, telecom competition and enforcement issues, data privacy, advanced electronic signature, intellectual property rights, cyber crime, regulatory treatment of new technologies; online taxes; e-transactions, and other regulatory proposals under review. Raising awareness on these issues would create consensus and common ground on future strategic decisions on regulatory development of the ICT field.

México has implemented several initiatives to promote e-commerce, and at the same time, let users know their rights and obligations in connection with the use of ICT. These initiatives are currently instrumented as public-private agreements. As public private agreements theses initiatives benefit from some capital (although not enough); alternative management and implementation skills; value added to the public at large; and better identification of needs and optimal use of resources. However, funding for the existing initiatives is limited.

[55] Cyber Crime is somewhat covered in the Federal Criminal Code, however its content is outdated, incomplete and confusing. México would benefit from a new complete set of principles and crime types.

The project would build upon current programs such as the Trustmark Seal Program[56] (Programa de Sellos de Confianza), the creation of a Dispute Settlement Center within the Mexican Software Consortium[57] (Consorcio Mexicano de Software), and the e-crime initiative[58]. This activity would finance dissemination and promotion of e-commerce by highlighting regulatory compliance and enforcement of laws and regulations including advertising campaigns, promotional materials and technical assistance to assure continuity in supporting these initiatives.

c. **Capacity Building.** Most of México's legislators, judges, public servants, law enforcement, technical experts in trials and lawyers, among others, need education in ICT related issues. There have been several precedents in which legal interpretation of existing regulations have been erred, misleading and contradictory. In general, most of México's legal courts know little about IT related practices and are thus unfamiliar online crimes. México's lawyers are also short of knowledge on IT related legal issues. They are not educated to protect their clients in IT related issues. As the level of knowledge on the ICT legal and regulatory systems differs from one judge to the other, it is recommended that the capacity building program for judges ranges from the most basic elements of ICT laws to the most technical discussions of issues and challenges.

This activity would include supporting the creation and/or strengthening of local Masters programs in IT Law and several tailor-made courses to cover all areas of IT law in many different study formats. The training courses would be provided as follows: 1) Three day seminars; 2) Five day tailor-made courses; 3) Three month Certificate Courses; and 4) One month "Train the Trainer" Programs. These courses would review the most recent issues, developments and solutions currently available to assist policy makers, judges, practitioners, law enforcement, prosecutors, administrative servants and others in their efforts towards an enabling and a supportive legal environment for ICT in general, and an appropriate enforcement and proper interpretation of ICT rules and principles.

[56] The Ministry of Economy (through Secretaría de Economía), Mexican Internet Association ("AMIPCI") and the Consumer Protection Agency ("Profeco") signed an agreement in 2006 to implement the Trustmark Seal Program. A program designed to promote e-commerce by guaranteeing that commercial websites comply with formal business registration and Privacy requirements of FCPL, art 16,17, 18 bis and mainly 76 bis. The Program has been successful, although more publicity, and resources and awareness are needed.

[57] In 2006, the Mexican Software Consortium was launched. The Consortium is a Public-Private-Partnership formed by the Ministry of Economy, through the "PROSOFT" initiative, together with AMIPCI, the Instituto Politécnico Nacional (IPN), the Instituto Tecnológico Autónomo de México (ITAM) and the Instituto Tecnológico y de Estudios Superiores de Monterrey (ITESM), among others. The Consortium is holding a national road show to promote local technological innovation, and the protection of inventions and works of art.

[58] With the leadership of the Ministry of Public, the e-Crime México Group is a multidisciplinary effort created in 2002 with the aim of preventing and reducing cyber crime in México. The tasks of this group include: (i) identifying, monitoring and prosecuting Internet related crimes including fraud, phishing, identity theft and all those crimes involving information systems; (ii) analyzing and informing about the latest threats to security systems on the Internet; and (iii) fostering a culture of 'information security' in México.

Component G: Strengthening of PROSOFT and Project Management

56. This component would create an International Consultative Commission in PROSOFT to advise SE on new developments in the global IT industry to formulate new policies for the sector. It would finance:

a. Operational costs including travel and honoraria of the members of the International Consultative Commission in PROSOFT;

b. Technical assistance to carry out studies on the IT sector in México, as requested by PROSOFT's International Consultative Commission, and to bring international experts to México to organize lectures, carry out workshops, consultations and other learning events; and

c. Operational costs of the Team ("Dirección de Economía Digital") of Secretaría de Economía to manage, implement, monitor and evaluate the Project, including the expenditures of PROSOFT *International Consultative Commission.*

Annex 5: Project Costs

MEXICO: Information Technology (IT) Industry Development

Project Cost By Component and/or Activity	Local US $million	Foreign US $million	Total US $million
1. Human Skills Development	38.3	-	38.3
2. IT Clusters Strengthening	9.0	-	9.0
3. Financing	2.9		2.9
4. Infrastructure (IT Parks)	10.1	-	10.1
5. Government Services Outsourcing	2.7	-	2.7
6. Legal and Regulatory Framework Strengthening	6.1	-	6.1
7. PROSOFT Strengthening and Project Management	3.6	-	3.6
Total Baseline Cost	72.6	-	72.6
Physical and Price Contingencies	7.3	-	7.3
Total Project Costs[1]	79.8	-	79.8
Front-end Fee		0.2	0.2
Total Financing Required	79.8	0.2	80.0

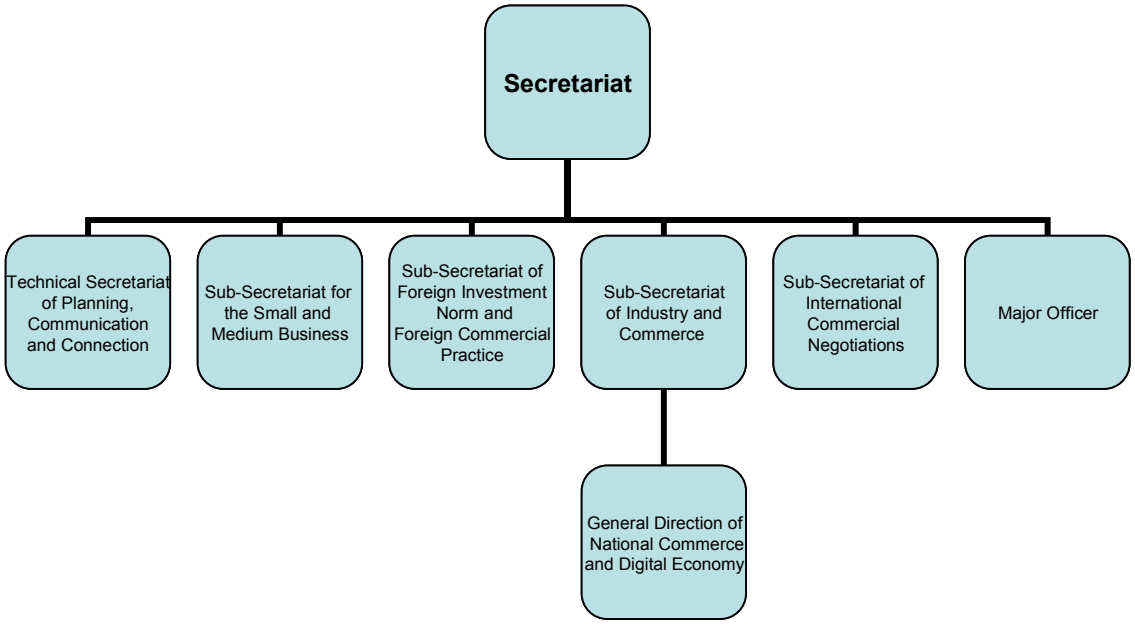
The proposed World Bank loan is USD 80.0 Million.

Annex 6: Implementation Arrangements

MEXICO: Information Technology (IT) Industry Development

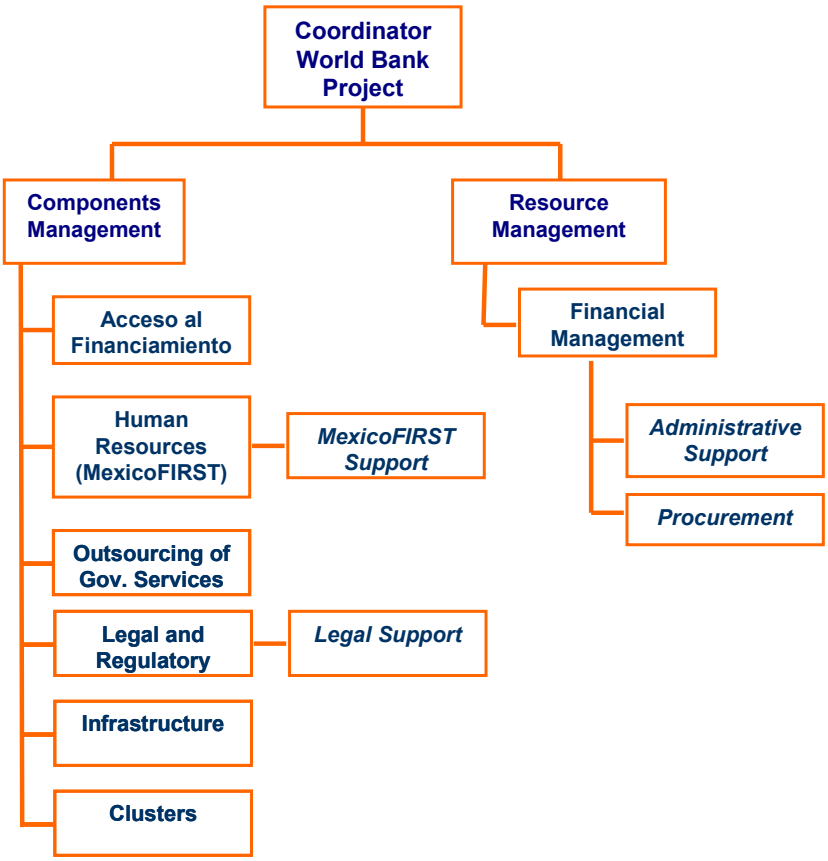
1. The General Direction of National Commerce and Digital Economy in Secretaría de Economía (the "Team") will implement the Project. Under this Team, a small group of consultants would assist the Head of the Team to perform the project implementation duties. Figure A6.1 shows the location of the Team in Secretaría de Economía. This Team has the managerial capacity to implement the Project, and would be reinforced by consultants to supplement certain areas as described in the Procurement and Financial Management Sections of this Report.

Figure A6.1: Organizational Structure



2. The organization structure of the Team, for the purposes of managing this project is shown in Figure A6.2. The Team head is the Director General of National Commerce and Digital Economy. Under him, the Deputy Director General will monitor the project implementation Team. The Coordinator for the World Bank Project will be dedicated full time to the Project, and will have two sections under him: a Components Manager and a Resources Manager. The Components Manager will have specialists assigned for each component: Human Skills Development (Component 1), Support to Clusters (Component 2), Access to Finance (Component 3), Infrastructure (Component 4), Government Outsourcing (Component 5), and a Lawyer dedicated to Component 6 (Legal and Regulatory Framework). The Resources Manager will have a Financial Management Specialist and a Procurement Specialist that will be in charge of all fiduciary aspects of the Project. Their job will be to ensure that the Project is implemented following the Bank's Procurement and Financial Management Guidelines, including assisting the beneficiaries to carry out these functions for the procurement of goods and services, the selection of consultants and the financial management of the transactions.

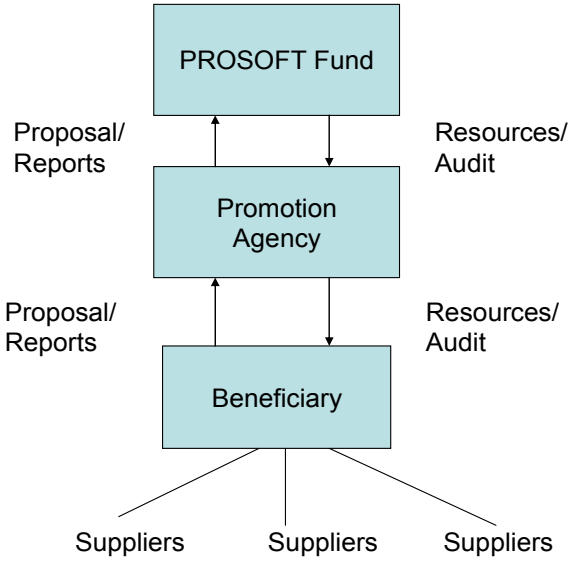
Figure A6.2: Functional Organization within Digital Economy Directorate to Manage the IT Industry Development Project



3. The *PROSOFT Fund Operation* is as shown in Figure A6.3. First the Beneficiary (an IT company or University) prepares a proposal for a Project and presents it to the Promotion Agency ("Organismo Promotor"), which can be either a State Promotion Agency, or an Industry Association such as CANIETI or AMITI. Usually Promotion Agencies contribute to a percentage of the cost of the Project. Once the Promotion Agencies confirms that the Project complies with PROSOFT Rules, it submits the Project to PROSOFT. PROSOFT Board meets regularly to approve Projects. Once approved, the Fund signs an Implementation Agreement ("Convenio de Adhesion") with the Beneficiary and the Promotion Agency, in which these entities commit to implement the Project with the funds allocate by PROSOFT, under the terms and conditions of the Rules of Operation of PROSOFT[59]. The Fund disburses the resources to the Promotion Agency. The Agency deposit the funds in a special bank account created exclusively for this purpose. The Agency passes the funds to the Beneficiary, including the part that it contributes from its own resources. The Beneficiary implements the Project, according to the approved proposal. The Beneficiary presents progress reports to SE and, after Project conclusion, a final report. SE audits the beneficiary and the Promotion Agency.

[59] "Reglas de Operacion del Programa para el Desarrollo de la Industria del Software (PROSOFT) para el ejercicio fiscal 2008", Diario Oficial de la Federación, 30 de diciembre de 2007.

Figure A6.3: Operation of the PROSOFT Fund

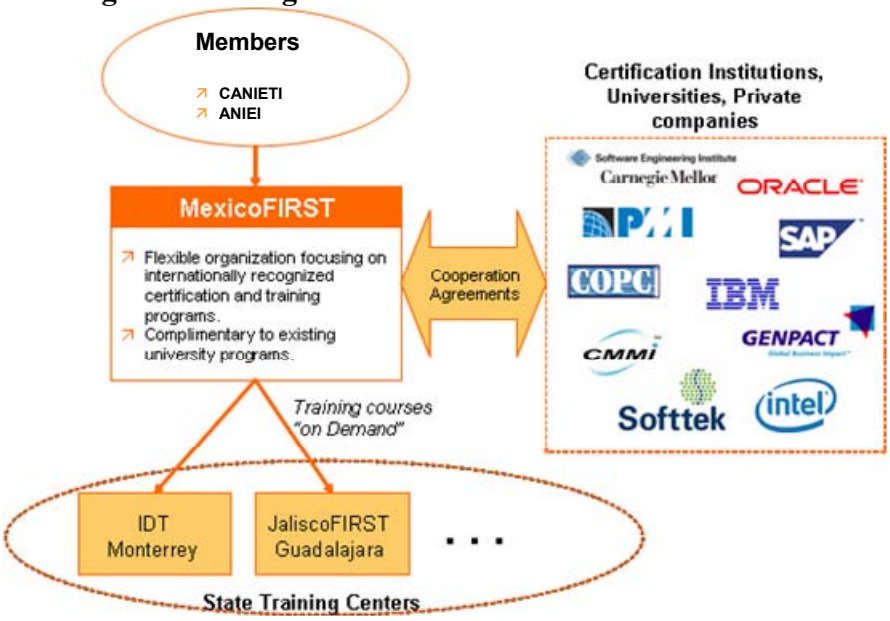


4. As detailed in Annex 1, the PROSOFT Fund has been praised by the industry for its operation transparency, efficiency and effectiveness. The Bank's appraisal found that the Fund is the ideal vehicle for Project Implementation. Therefore, the proposed Project would use the PROSOFT Fund implementation arrangements and procedures to channel the funds of the Project. A description of the specific implementation arrangements by component follows.

a. MexicoFIRST

5. The organization structure of México FIRST is included in Figure A6.4:

Figure A6.4 Organization Structure of MexicoFIRST*



*Illustrative

6. CANIETI and ANIEI are the founding partners of MexicoFIRST. CANIETI is the largest industry association, with national representation and well recognized in the IT Industry in Mexico. ANIEI is the Association of the Academia and the Industry, incorporating the largest Universities of Mexico. MexicoFIRST would be established as a non-for-profit organization ("Asociacion Civil"). CANIETI and ANIEI will appoint the Board members of Mexico FIRST.

7. MexicoFIRST Board would select the CEO of the Institute. For this purpose an international human resources consulting firm would be hired to head-hunt the best candidates that would fulfill the profile of the CEO: experience in the IT Industry at the global level, and specific experience in Human Resource formation, The idea is that this person would be able to establish the alliances that MexicoFIRST would build with leading institutions and companies worldwide to carry out its programs.

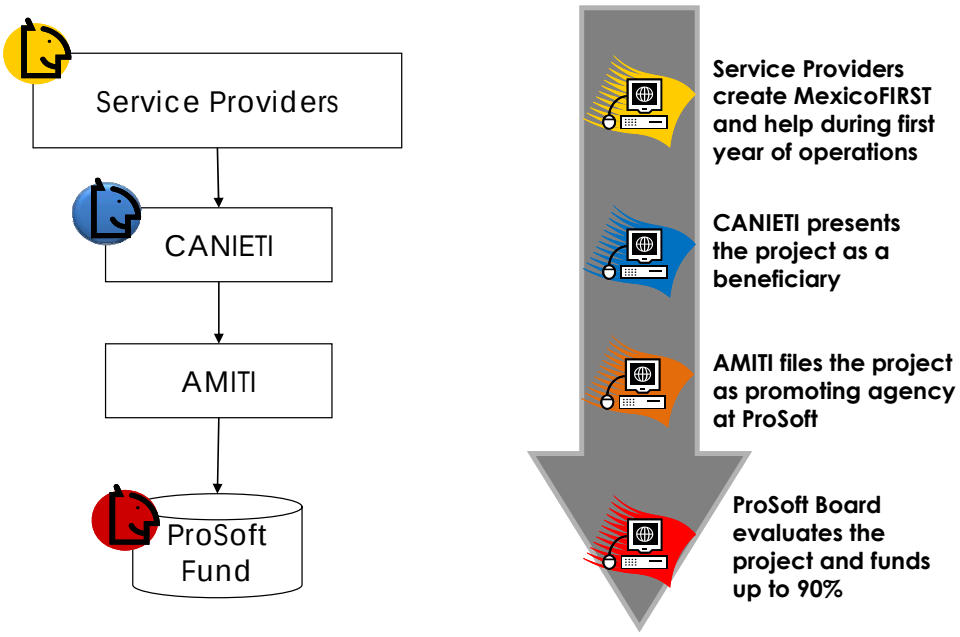
8. MexicoFIRST would make alliances with Global Partners, leading Universities and companies in the IT space, like SEI, CoPC, PMI, etc. The purpose of these alliances is to obtain from those institutions the best professors and methodologies to impart courses in México.

9. At the local level, MexicoFIRST would develop partnerships with local institutions, like Instituto del Desarrollo del Talento, in Monterrey, or JALISCO FIRST in Guadalajara, to deliver the training programs. To fulfill this objective, MexicoFIRST would have a General Manager, with profound knowledge of the Mexican IT Industry and Academia, to be able to develop such partnerships in coordination with the local Industry and Universities, to attend to the local needs of the Industry.

10. Figures A6.5 and A6.6 describe the operational arrangements of MexicoFIRST and SE. Figure A6.5 refers to setting up the Institution. All start up costs would be requested to PROSOFT by CANIETI (beneficiary) and AMITI (promotion entity), including its staff, building, equipment, and operating costs. First, CANIETI submits the Proposal to create and implement MexicoFIRST to AMITI (Promotion Agency). AMITI reviews the Proposal to ensure that it complies with PROSOFT Rules. Once approved, it submits the Proposal to PROSOFT. PROSOFT's Board reviews the proposal to ensure that it complies with its Rules of Operation. Once approved, PROSOFT signs an Implementation Agreement ("Convenio de Adhesion") with CANIETI and AMITI. PROSOFT disburses the resources to AMITI. AMITI deposits the funds in a special bank account and then disburses the funds to CANIETI. CANIETI uses these resources to pay for consultants, staff, office space, computers, furniture and all other expenses required to create the Institution. At the end of the project, CANIETI submits to PROSOFT through AMITI the final report.

11. Once MexicoFIRST is fully operational, Figure A6.6 describes the process to request funds for its operations. MexicoFIRST would prepare the requests for training courses, consultants, or goods (a "Proposal for a Training Initiative") in coordination with companies/universities to a State Government Promotion Agency, who would submit it to PROSOFT for consideration. PROSOFT reviews the application and, if it complies with PROSOFT rules and regulations, approves it. PROSOFT disburses the funds to the Promotion Agency who gives the funds to MexicoFIRST to implement the Initiative.

Figure A6.5 Design and Set-up of MexicoFIRST



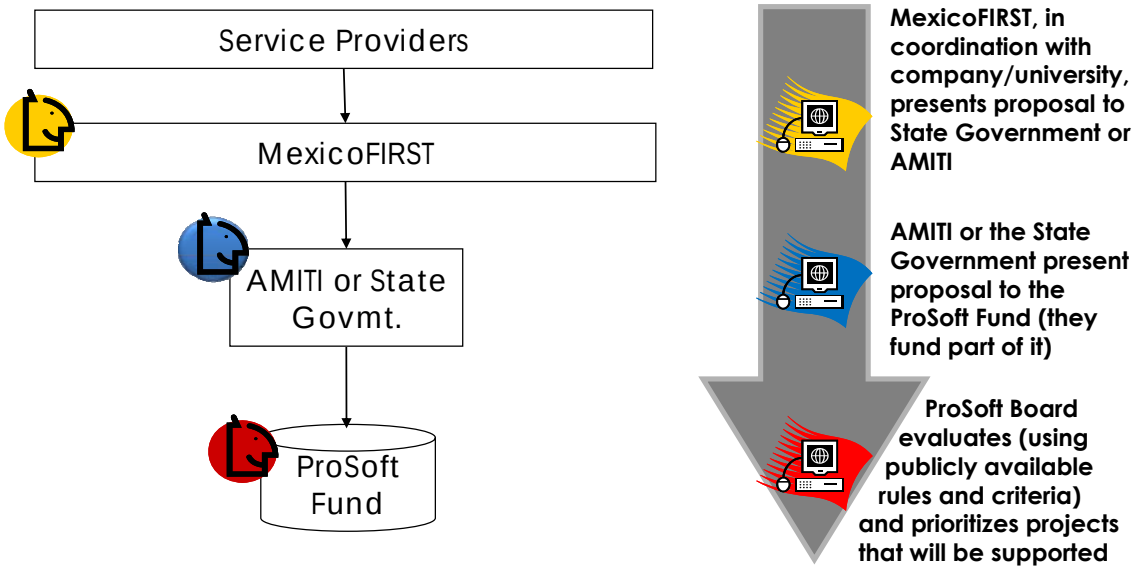
12. MexicoFIRST contracts the required services, using guidelines for procurement under IBRD Loans and records transactions using acceptable accounting standards. MexicoFIRST sends all documentation to SE for submission to NAFIN and the Bank to get reimbursement of funds. At the end of the Project, MexicoFIRST sends a final report to PROSOFT through the Promotion Agency.

13. In the beginning, while MexicoFIRST is establishing its financial management systems, SE will carry out this component until such time when MexicoFIRST would have those systems in place in a manner satisfactory to the Bank.

b. Clusters Strengthening.

14. CANIETI and AMITI, the industry associations, who represent the industry nationally would manage the first initiative under this component, the IT Links Program. In coordination with the Team in *Secretaría de Economía*, CANIETI/AMITI would submit the proposals to PROSOFT to appoint IT Links' representatives in Corporations/Regions who will serve as links between the Corporations and the Mexican IT Industry. The State's Clusters would implement the second initiative, the implementation of the Cluster' Strategies and the design of new Strategies for the IT Sector in several States. The Clusters would submit proposals to PROSOFT, through CANIETI or AMITI to hire consultants to prepare/implement the Strategies. The clusters would follow the same approach for the Awareness Raising Workshops, the third initiative under this component. Finally, IT Companies would submit request for Certification Grants through State Promotion Agencies to PROSOFT Fund, for the fourth initiative.

Figure A6.6 Training Projects for MexicoFIRST



c. Financing of IT Companies

15. SE would hire a consultant to design the Financing of IT Companies Accreditation Program ("FIT"). This program would aim at reducing the time that Banks and FIs need to evaluate credit applications from IT companies, and therefore increase the likeness of receiving approval of Loans from Banks/FIs. SE would also support the establishment of the Accreditation Authority, in NYCE, or other suitable standards authority. IT Companies would request Accreditation Grants to PROSOFT Fund, through State Promotion Agencies, under the FIT Program, to improve the Companies managerial and financial performance and improve the preparation of business plans and projects for the presentation to FI or Banks. SE provide Technical Assistance to Banks and FIs participating in NAFIN's IT Companies' Guarantee Program to develop capacity to appraise IT Projects.

d. IT Parks

16. State IT Clusters would present proposals to PROSOFT to hire consultants through CANIETI/AMITI to prepare feasibility studies, design and bidding specifications for IT Parks. The State Clusters would issue bidding invitations for the development of the IT Parks, to major developers with experience in the construction of these facilities. The IT Parks would be Public Private Partnerships (PPPs), majority owned by the private party. The State contribution to these PPPs would be specified and/or requested in the bidding specifications. PROSOFT Fund would finance the Federal Government contribution of these PPPs, through requests presented by State Promotion Agencies.

e. E-Government Services

17. PROSOFT will approve requests to carry out: (a) the study on the regulatory framework for outsourcing; and (b) the feasibility studies and design of PPPs for the oursourcing of Secretaria de Economia and other Federal Entities' services; (c) Training of Federal Government officials on Outsourcing Government Services; and (d) the Study on the Integration Competency Center. The States would request feasibility studies on outsourcing States Government services to the PROSOFT Fund through CANIETI/AMITI.

f. Legal and Regulatory Framework

18. AMIPCI would (a) hire consultants to review the IT legal and regulatory framework and propose changes; and (b) carry out the Trustmark Seal Program, through CANIETI or AMITI to the PROSOFT fund. The Team in SE would partner with UNAM to carry out the training of legislators, judges, civil servants, law enforcement officers, technical experts, lawyers and professors in general on the proposed IT legal and regulatory framework. UNAM is especially qualified to carry out this training, because it is perceived as an independent institution. The Mexican Software Consortium would request funds to the PROSOFT Fund through CANIETI or AMITI to implement the Center for Dispute Settlement. ITAM would request funds to PROSOFT Fund through CANIETI or AMITI to develop and implement a local Masters program in IT Law, training Law professors and lawyers on IT issues, regulations and enforcement best practices.

g. PROSOFT Strengthening and Project Management

19. The Team in SE would manage this component directly. It would: (a) pay for operational cost of International Experts to participate in the International Consultative Commission to support PROSOFT, including their travel expenses; (b) carry out studies on the IT Sector in Mexico; and (c) hire consultants to reinforce the Team to manage and implement the Project in Secretaria de Economia.

Annex 7: Financial Management and Disbursement Arrangements

MEXICO: Information Technology (IT) Industry Development

1. **Background**. The objective of the IT Industry Development Project is to assist the Government of Mexico to implement an alternative strategy for PROSOFT to foster the creation of jobs in Mexican IT companies by their access to: (a) a larger supply of trained personnel; (b) technologies and global marketing networks of Multinationals; and (c) private debt finance.

2. While *Dirección General de Comercio Interior y Economía Digital* (DGCIED) through the *Coordinación de Administración y Operación del PROSOFT* at *Secretaria de Economia* (SE) will be the implementing agency, *Nacional Financiera* (NAFIN) will be the financial agent. As soon as MexicoFIRST is in full operation, including its staff, FM systems and procedures in place, acceptable to the Bank, SE will sign *Convenios de Adhesión* with MexicoFIRST for the implementation of training courses under Component number 1 (Human Skills Development, which represents approximately 45% of the total), and coordination with SE on the implementation of Component number 2 (Strengthening of IT Clusters and Selected State Agencies, which represents approximately 15% of the total).

3. SE's Financial Management (FM) arrangements are consistent with Bank's principles and practices on the subject (and the arrangements to be implemented by MexicoFIRST must be satisfactory to the Bank), and the proposed project will allow for the use of existing government FM arrangements (country systems that are satisfactory to the Bank), thus minimizing any additional program specific requirements e.g. budget formulation and recording. Current arrangements are acceptable to the Bank for project start-up.

4. **Financial Management Assessment (FMA).** A FMA was carried out, and involved ensuring that Project design allows, after effectiveness, for an appropriate level of transparency, facilitating oversight and control while also supporting smooth implementation. The FMA included a risk assessment, and an agreed Action Plan which SE implemented before negotiations.

5. **Action Plan**. Based on the results of the FMA, the Bank's FM team and SE agreed on the following elements of the Action Plan: (i) FM staff in SE and MexicoFIRST must have training on FM aspects for Bank-financed projects; (ii) control of funds and Project records will be accomplished through existing SE's systems, supported by MexicoFIRST's systems, which must be satisfactory to the Bank; (iii) SE's systems will require a small number of adjustments to generate the semiannual Interim un-audited Financial Reports –IFRs-, which will be quarterly submitted to *Secretaría de la Función Pública* -SFP-; (iv) a consultant with experience in FM for Bank-financed operations has been hired, however it is important that a FM specialist be hired as permanent counterpart responsible for the coordination of FM activities such as reimbursements, budgeting, accounting, IFRs & audits submission; (vi) Project will be executed based on SE's authorized annual budgets for the involved programs, including funding of MexicoFIRST; and (vii) a FM section for the Project Operations Manual was prepared by UCIED's staff [with support of *Nacional Financiera*], and was ready before Negotiations. The Action has been implemented, except for the MexicoFIRST activities, which will be implemented before

MexicoFIRST is involved in the implementation of Component 1 (b). The Bank will carry out a FMA of MexicoFIRST to ensure that arrangements are satisfactory to the Bank.

6. **Risk Assessment.** The FMA included a risk assessment, which stated an overall risk of *Substantial*. The following table shows the risk per FM area, the mitigating actions and the decision on their inclusion or not as legal conditions:

Risks

Risk	Risk Rating	Risk Mitigating Measures Incorporated into Project Design	Condition of Negotiations, Board or Effectiveness (Y/N?)
Inherent Risk	**M**		
Country Level	M		N
Entity Level	M		N
Project Level	S	The FM-oriented action plan to support readiness of **MexicoFIRST** is being implemented by SE. The main actions are (i) complement current staffing with expierenced consultants; (ii) up-date the operating rules *Reglas de Operación* ; and (iii) implement the Operations Manual	Y
Control Risk	**S**		
Budgeting	S	Budget for component 1 will be transferred to **MexicoFIRST** as soon as it is operational.	N
Accounting	S	**MexicoFIRST** will implement an accounting system satisfactory to the Bank	N
Internal Control	S	While SE will coordinate and supervise the operation of **MexicoFIRST,** NAFIN will provide support and supervision to ensure proper FM operation.	N
Funds Flow	S	SE and **MexicoFIRST** will ensure timely counterparting by incorporating this requirement in the operating rules	N
Financial Reporting	M	**MexicoFIRST** will produce semiannual reports on Component 1, which will be complemented with SE's reports on Components 2 to 7. All of them in the format of IFRs.	N
Auditing	M	External auditors (a private firm) will be contracted for the audit of **MexicoFIRST**. SE operation will be audited by the Internal Control Unit (OIC) of *Secretaria de la Función Pública* in SE. The TORs will be satisfactory to the Bank.	N
Overall Risk	**S**		

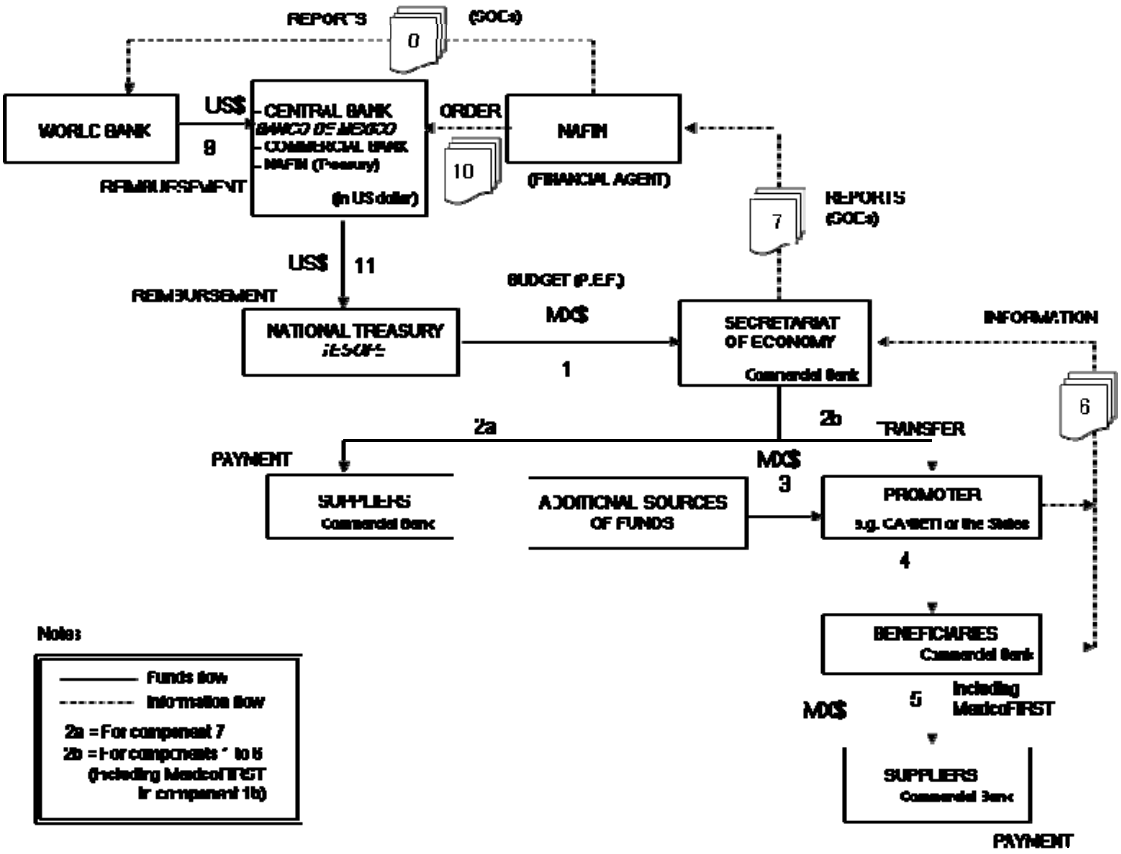
Risks ratings:
L: Low
M: Modest
S: Substantial
H: High

7. **Implementing entity.** SE is the implementing agency through its DGCIED, in coordination with relevant areas of SE e.g. *Oficialía Mayor*. DGCIED will house a small Team (*Unidad de Proyecto Banco Mundial*) which will be responsible for all FM-related aspects of the

Project. SE has demonstrated high capacity for project implementation, including smooth interfaces with *Nacional Financiera* and the Ministry of Finance *Secretaria de Hacienda y Crédito Público* (SHCP). SE will implement all components of the Project through the PROSOFT Fund, as described in Annex 6, Implementation Arrangements.[60]. In the case of Component 1 (b), the Beneficiary is MexicoFIRST. In this case, the Bank will carry out a FM assessment of this entity once it is fully operational. After the satisfactory FM Assessment, MexicoFIRST will start to present project proposals to the PROSOFT Fund to implement the training programs of Component 1 (b). Before MexicoFIRST is FM assessed, SE, through the PROSOFT Fund, will carry out the tasks needed to legally establish the entity, appoint its staff, purchase the systems required for its operation and establish the internal procedures (Component 1 (a).

8. **Flow of funds and information.** As explained in paragraph 19 below, the preferred method of disbursements will be through re-imbursements, upon request and against SOEs. The bank account will be established in US dollars, although it is most likely that this account will be established at the Mexican Central Bank *Banco de México,* recently the GOM has requested authorization to establish the bank account either in a commercial bank or in a development local bank (NAFIN). The section on *Disbursement Arrangements and Retroactive Financing*, provides information which complements this section.

9. The following chart shows the flow of funds and information for the Project:



[60] Component number 2 will be implemented in coordination with MexicoFIRST.

10. **Budget.** SE will receive funds in Mexican Pesos via its standard budget from the National Treasury (TESOFE), which is reimbursed from the Designated Account. Counterpart funding is part of SE's standard budget (program in the PEF) and will be used to complement Bank funds. The financing percentage is 100% of federal contribution as funding from state governments and private sector will be recorded in the project cost but it will not be incorporated into reimbursements. Funds will be registered in SE's standard budget in separate budgetary lines earmarked for the project. SE, states and the private sector entities[61] participating in the project will fund Component 1 (b), which will be channeled through MexicoFIRST. Funding for Components 1 (a) and 2 to 7 will be provided by SE. TESOFE will be reimbursed for eligible expenditures and for the corresponding portion. Budget execution is regulated by the *Ley Federal de Presupuesto y Responsabilidad Hacendaria* and *Reglamento a la Ley Federal de Presupuesto y Responsabilidad Hacendaria*. The system for budget management is the *Sistema de Gestión Financiera* (SIGEFI) through its module PHIP (mainly MAP and *Presupuesto*).

11. The following table summarizes, by component, the agreement on the amount of the Loan, the Bank's share, the use of funds, and when the Bank will recognize eligible expenditures.

Component	Bank share (US$ million)	Description (use)	Expenditures' recognition
Human Skills Development	**38.25**	Set-up and operation of MexicoFIRST, courses, equipment and operations cost, including travel.	Payment of goods, works or services
Strengthening of IT Clusters	**8.95**	IT.LiNk program, developing strategies for interested Clusters with right endowments, develop financing scoring system for IT SMEs, capacity building among entrepreneurs and financial intermediaries.	Payment of goods or services
Financing of the IT Industry	**2.90**	Design accreditation program. Accreditation Grants to IT companies, Technical Assistance to financial intermediaries.	Payment of goods, works or services
Supporting Infrastructure	**10.10**	PPP schemes to count with Real Estate private party in the development of IT Parks. Partially finance works in some Parks.	Payment of works or services
Outsourcing of Government Services	**2.70**	Prepare bidding documents for a PPP approach to outsourcing of eGovernment services.	Payment of services
Strengthening of Legal and Regulatory Framework	**6.10**	Technical capacity building among judiciary system.	Payment of goods or services
Strengthening of PROSOFT and Project Management	**3.55**	Project Management. PROSOFT Consultative Commission. Studies, lectures and workshops.	Payment of services
Unallocated	**7.25**		
Front End Fee (0.25%)	**0.20**		Automatic charge
Total (Loan)	**80.0**		

[61] CANIETI and AMITI

12. **Accounting Policies and Procedures.** SE maintains records and accounts adequate to reflect, in accordance with accounting practices compatible with International Accounting Standards and in compliance with local requirements, its operations and financial condition. Current situation will allow the inclusion of records and separate accounts for the Project as it is done for similar Bank financed operations implemented at the national level as, accounting practices have been satisfactory to the Bank. The accounting system Module-SIGECON is based on the *Sistema Integral de Contabilidad Gubernamental*, which was established by Federal Secretariat of Finance. SIGEFI hosts the Module-SIGECON (Sistema de Gestión Contable) and it bases records in the accounting manual and chart of accounts for SE standard programs. Indeed Project funds will be earmarked as digit 1, 2 and 3 for external credit as is being done for all Bank projects implemented in Mexico. MexicoFIRST will implement a system satisfactory to the Bank.

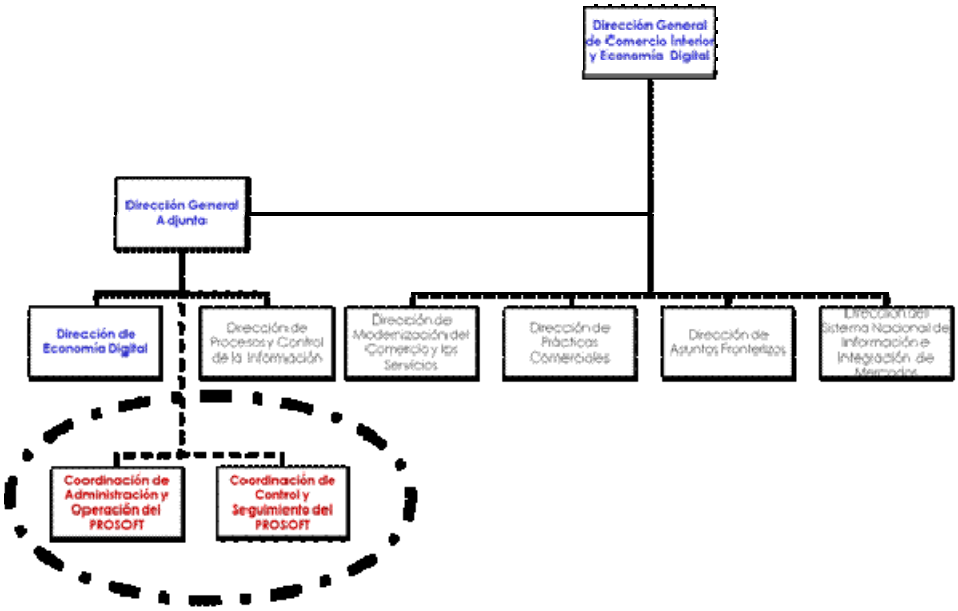
13. **Information Systems.** The Bank reviewed, from the FM perspective, the operations of the systems in which *Fondo* PROSOFT (*Programa para el Desarrollo de la Industria del Software*) is being executed and controlled, as well as the systems for SE's FM-related supporting areas (e.g. budgeting, accounting and treasury) that currently SE utilizes for its normal operation (regular systems for institutional programs). Current systems are fully operational for the Project, however the system to manage *Fondo* PROSOFT needs to slightly be adjusted to host the program, mainly to strengthen the control; as well as to produce the semiannual Interim un-audited Financial Reports (IFRs). Since the systems of MexicoFIRST must be acceptable to the Bank, their design is based on SE systems, but more important, Bank's funds will be reported in the System for *Fondo* PROSOFT. SE utilizes the federal SIAFF[62] for the flow of funds (budget management).

14. **Staffing** (key FM staff). A small project team housed in the *Fondo* PROSOFT coordination (*Coordinación de Administración y Operación del PROSOFT*) within DGCIED will be designated by SE. The staff in this team must have experience and credentials adequate to undertake all FM tasks related to the proposed Project. Currently the project team has incorporated a consultant who has experience managing Bank-financed projects; actually one of her current activities is the preparation of the FM section of the Operations Manual for this Project. The following organizational chart illustrates current staffing arrangements for the Project and the interactions with other SE's areas e.g. *Oficialía Mayor* (the financial and administrative department of the Secretariat). The consultant is part of the coordination of the *Fondo* PROSOFT.

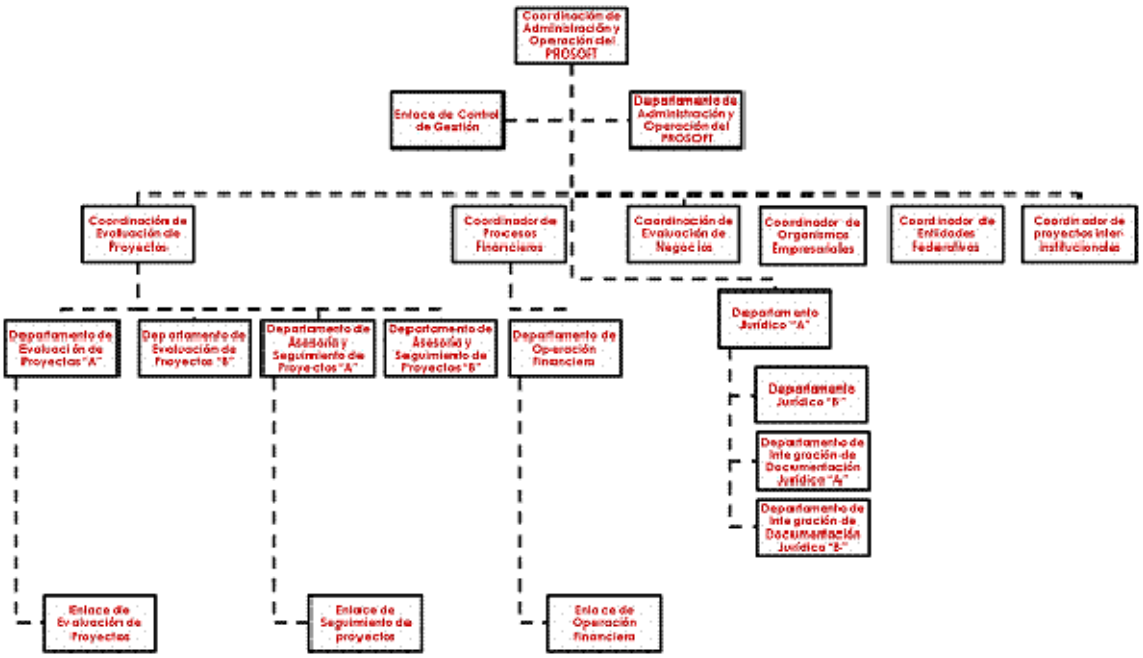
The following four charts show the interactions between SE's areas of support and the implementing Team.

[62] SIAFF – *Sistema Integral de Administración Financiera Federal*.

Dirección General de Comercio Interior y Economía Digital

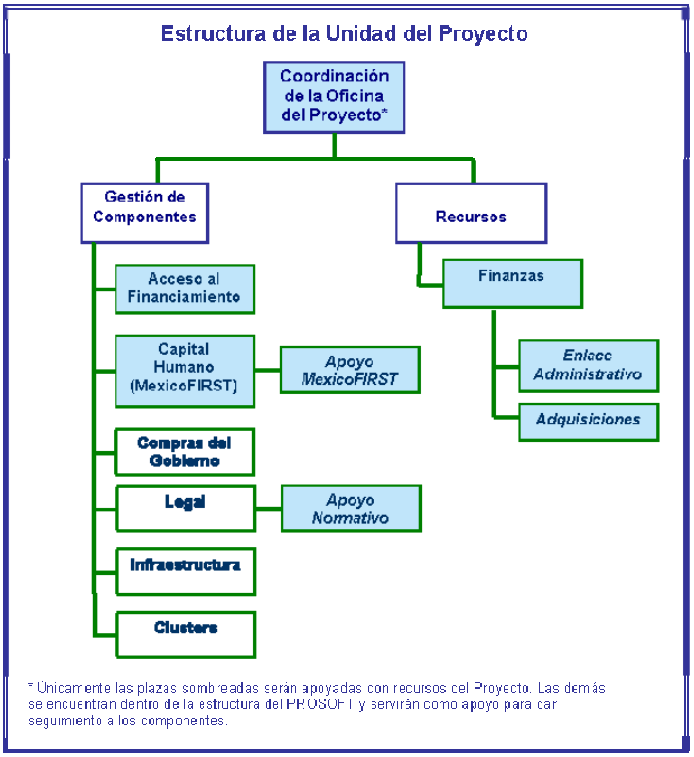


Coordinación de Administración y Operación del PROSOFT



Coordinación de Control y Seguimiento del PROSOFT

Implementing Team



15. **Financial Reporting.** There will be various forms and levels of financial reporting. The main FM reports will be Interim un-audited Financial Reports (IFRs), which will be semiannually submitted by SE (through NAFIN) to the Bank. The format and contents of the IFRs have been agreed during appraisal and incorporated in the draft Operations Manual. MexicoFIRST will produce needed information on Component 1 (b), and it will be complemented by SE with information on Components 2 to 7. Then IFRs will be submitted to the Bank, containing the following two sections: (i) Narrative Section, with concise information –one paragraph per group of information- on project execution, financial information, progress in implementation –indicators- and on procurement; and (ii) Financial Section, with agreed financial statements e.g. Sources and Uses of Funds per Component/Category. The IFRs will be complemented with the Project Financial Statements, which will be annually audited by an auditor acceptable to the Bank, and under TORs satisfactory to the Bank. The IFRs will not form the basis of disbursement, instead Statements of Expenditures (SOEs) will base disbursements. Detailed information on the latter is being provided in the section below on *Disbursement Arrangements and Retroactive Financing*.

16. Additionally SE will produce quarterly financial reports to *Secretaria de la Función Pública*.

17. **Internal auditing.** SE has an internal audit function, the *Órgano Interno de Control* (OIC). This department carries out planned financial reviews of SE's operation (programs). The OIC will carry out supervision of project activities, including reviews to the operation of the MexicoFIRST unit. The latter will be in coordination with the audit function within MexicoFIRST and the external auditors.

18. **External Audit**. Annual financial audits including all project operations; will be carried out according to Bank policy and in combination with the Country Systems approach currently being implemented in Mexico (the framework for all project audits in México is the MOU agreed between the GOM and the Bank). The OIC is considered an auditor acceptable to the Bank, therefore jointly with the external auditors of MexicoFIRST will audit the Project. The combined (consolidated) non-audited financial statements of the Project will be prepared by SE and submitted to the Bank, jointly with the audits of SE and MexicoFIRST. SE through NAFIN will furnish to the Bank Project's audits, including the consolidated un-audited financial statements of the project and the audited financial statements of SE and MexicoFIRST (one audit per entity). The following table summarizes the agreement on the audit requirements for the Project:

Audit report	Due dates
Project Financial Statements: ▪ Secretariat of Economy ▪ MexicoFIRST	Within the six months following the end of the audited year, starting by June 30, 2009 (which will cover financial year 2008). Audits will be included in the Legal Agreement as an annual requirement which will be applicable during the entire project implanting period. The standard covered period is the calendar year, from January 1 to December 31.

Disbursement Arrangements and Retroactive Financing

19. *Disbursements.* The method (use of SOEs), currency of the account (USCy), transfers to MexicoFIRST, and supporting documentation was agreed during appraisal. It has been agreed that the national treasury in SHCP (TESOFE) will provide funding for all project operations through SE's standard budget. This funding will be complemented with the participation of the private sector (IT Clusters) and participating states (through selected State Promotion Agencies). See flow chart in the above section on flow of funds. The Bank will reimburse TESOFE, upon request and against Statements of Expenditures (SOEs). SE will prepare the information needed for disbursement purposes e.g. SOEs and their supporting documentation. Regarding the training, certification and accreditation grants to be financed through Sub-components A(b), B(d), and C (b), respectively, they will be reimbursed once all supporting documentation is received by SE from MexicoFIRST.

20. *Retroactive Financing.* The project will be eligible to submit for retroactive reimbursement, documentation on expenditures totaling up to 20% (US$ 16 million) of the loan amount for eligible expenditures incurred during the period between the dates of the official Project Appraisal and signing of the Loan Agreement. Retroactive financing is an open option in case that SE has eligible expenditures to be reimbursed as agreed during Negotiations.

21. *Disbursement percentages.* The following table shows agreed financing percentages per cost category:

Cost category	Amount of the loan allocated (US$)	% of Expenditures to be financed
Goods	600,000	**100**
Consultants	17,350,000	**100**
Training Grants	35,500,000	**100**
Certification Grants	6,400,000	**100**
Training	1,300,000	**100**
PPPs	9,300,000	**100**
Operating Cost	2,100,000	**100**
Unallocated	7,250,000	
Front End Fee	200,000	
Total	80,000,000	

22. **Operations Manual (OM) and Written Procedures.** The Bank's FM Specialist (member of the Task Team) has reviewed the Operating Rules, and recommended needed adjustments, to ensure that are adequate for the implementation of the Project (from the FM perspective). Recommendations were timely incorporated and, the Operating Rules entered into effect in the financial year 2008 as the local financial (fiscal) year comprises from January the 1st to December 31st. Current FM-related sections of existing manuals[63] and the Operations Manual (OM) for the Project were reviewed by the FM Specialist to ensure that are satisfactory to the Bank. The former were considered acceptable by appraisal (in sections which will impact the

[63] The manual for the operation of SE's regular programs.

proposed Project), and the former, was considered acceptable to the Bank by Negotiations. NAFIN supported SE in these tasks, and the Bank provided needed advise to ensure readiness..

23. Specific Project FM-related procedures were documented in the above indicated OM of the Project (in the FM section), which defines roles and responsibilities of SHCP, SE, NAFIN, MexicoFIRST and other participating entities e.g. States and the private sector associations. This OM includes as well detailed information on all above described FM arrangements for the Project (this annex 7 of the PAD has constituted an important source of information for its preparation).

24. **Supervision Plan.** Based on the results of the FMA the FM team will carry out one supervision mission per financial year during the entire implementing period. Additionally, a FM specialist will review the annual audits and the semi-annual IFRs. At the beginning of the implementing period (within the following two months after effectiveness) the Bank will carry out a mission to ensure that arrangements continue to be in place. As soon as MexicoFIRST is ready, a FMA will be carried out, and its operations will be included in all following supervision missions.

Annex 8: Procurement Arrangements

MEXICO: Information Technology (IT) Industry Development

A. General

1. Procurement for the proposed project would be carried out in accordance with the World Bank's "Guidelines: Procurement Under IBRD Loans and IDA Credits" dated May 2004, revised in October 2006; and "Guidelines: Selection and Employment of Consultants by World Bank Borrowers" dated May 2004, revised in October 2006, and the provisions stipulated in the Legal Agreement. The various items under different expenditure categories are described in general below. For each contract to be financed by the Loan, the different procurement or consultant selection method, the need for pre-qualification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank in the Procurement Plan. The Procurement Plan would be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

2. **Procurement of Works**: Works procured under this project would include activities related to develop of IT Parks facilities and some other minor activities that may be procured for other components of the project. The procurement would be carried out following Bank's policies and using the Harmonized Standard Bidding Documents agreed with Secretariat of Public Administration, for all ICB and NCB. These documents will be adjusted accordingly when the Executing Agency is not a federal or state agency.

3. Procurement of Goods: Goods procured under this project would include mainly IT equipment as hardware, software and related items. The procurement would be carried out following Bank's policies and using the Harmonized Standard Bidding Documents agreed with Secretariat of Public Administration, for all ICB and NCB. These documents will be adjusted accordingly when the Executing Agency is not a federal or state agency.

4. **Procurement of non-consulting services:** Several training activities related to IT and improving language skills, mainly English as second language, would be carried out. Since this type of language courses are available in the market, the procurement of this type of training is considered as non-consulting services. The procurement would be carried out following Bank's policies and using the Harmonized Standard Bidding Documents agreed with Secretariat of Public Administration, for all ICB and NCB. These documents will be adjusted accordingly when the Executing Agency is not a federal or state agency.

5. **Selection of Consultants:** All the components of this project require the assistance of consultants to carry out specific activities. The selection of consultants would be carried out following Bank's policies and using the Harmonized Standard Bidding Documents agreed with Secretariat of Public Administration. These documents will be adjusted accordingly when the Executing Agency is not a federal or state agency. The most important activities are: developing strategies to help Clusters in Mexican States growth their local industry, designing training programs and skill development programs in areas with high market potential, technical assistance to Financing Intermediaries to develop capacity to appraise IT projects and feasibility studies required for particular components of this project. Short lists of consultants for services

estimated to cost less than $ 500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

6. **Operating Costs:** It is expected that as a result of the increase on the workload, the "Dirección General de Comercio Interior y Economía Digital" in Secretariat of Economy would hire consultants to carry out operational activities related to this project. The cost of the new personnel estimated in about eight (8) professionals would be financed by the project and selected using the implementing agency's administrative procedures which were reviewed and found acceptable to the Bank.

7. **Others**: The majority of activities of the project would be carried out by beneficiaries that are from the private sector or autonomous public entities. The beneficiaries will be selected under PROSOFT Operating Rules and Bank's Guidelines. It is expected that the initial studies and consultant services for the design, creation and initial implementation activities will be procured by ANIEI (Industry and Academy Association) or CANIETI (Industry Association).

8. In addition, one of the main components of this project is the consolidation of PROSOFT which objective is to promote growth and to create jobs in the IT/ITES industry. Under this program, several activities would be carried out. Among them, the most important would be the expansion of the fund that this program manages. It has already provided grants to IT industry for US$70 million (580 projects), as described in Annex 1. PROSOFT has also: (a) developed a Mexican certification standard; (b) supported the development of State level Clusters to foster linkages between companies, the federal government and the academia; and (d) promoted the Mexico IT Brand. The provision of the grants for IT Industry, consists of a process in two stages. The first one is at the State level, where the project has to be certified that it is in agreement with the State's development plan for IT industry. The second level is at the PROSOFT's Board where the project must comply with the standards and requirements set by the administration of the fund. In order to establish a transparent process of allocation of PROSOFT resources, the Bank and Secretariat of Economy agreed last year on improving the rules and procedures to assign grants. The new rules that were approved on December 21st, 2007[64], would apply to both stages of the process (State and PROSOFT levels) and include that: (i) the evaluation criteria to select projects shall be public and clearly identify the requirements for approval; (ii) the deadlines to submit proposals and notification of evaluation results shall be notified to the IT industry in an effective and transparent manner; (iii) in case that resources are not enough for the number of proposals, the criteria that shall be applied to select the beneficiaries shall be made public. The Bank would review implementation of the new Rules. The Bank at any time could ask for modifications of these procedures if it considers that the transparency objective is not been accomplished. The beneficiaries of the grants would use these funds in accordance to PROSOFT rules. In the case of procurement of goods and works procured by beneficiaries under PROSOFT estimated to cost less than $100,000.00 per contract, may be procured in accordance with commercial practices acceptable to the Bank, and described in the Operational Manual. Otherwise, they will follow Bank's policies and the Harmonized documents as described above (Para. 2,3 and 4). In

[64] "Acuerdo por el que se da a conocer las Reglas de Operacion del Programa para el Desarrollo de la Industria del Software (PROSOFT) para el ejercicio fiscal 2008", publised in the *Diario Oficial de la federación*, on December 30, 2007.

the case of selection of consultants, the beneficiaries estimated to cost less than $150,000.00 per contract for assignments of a standard or routine nature and $100,000.00 for all other assignments, may be procured in accordance with commercial practices acceptable to the Bank and described in the Operational Manual. Otherwise they shall follow Bank's policies and Standard Documents that allow them to use selection methods that recognize quality, in line with international best practices as described above (Para. 5).

9. The procurement procedures and SBDs to be used for each procurement method, as well as procedures for commercial practices, model contracts for consultants, works and goods procured, are presented in the Project Operational Manual.

B. Assessment of the Agency's Capacity to Implement Procurement

10. Procurement activities would be carried out by the Team in SE and by beneficiaries under PROSOFT. SE and PROSOFT would be staffed with expert officers on procurement financed by the Bank.

11. An assessment of the capacity of the Implementing Agency (the Team in SE) to implement procurement actions for the project has been carried out by Gabriel Peñaloza on October 11 and November 1, 2007. The assessment reviewed the organizational structure for implementing the project and the interaction between the project's staff responsible for procurement and the Ministry's relevant central unit for administration and finance.

12. SE will implement an Action Plan to strengthen its capacity to manage the Project, specifically they will: (i) recruit procurement staff in SE with experience on Bank's procurement rules; (ii) follow uniform procedures at the beneficiary level to implement the Project; and (iii) hire staff with experience in implementing projects financed by the Bank.

13. The overall project risk for procurement is high. This risk level will be reviewed once the implemented units are full staffed with staff or consultants with proven experience in Bank-funded procurement.

C. Procurement Plan

14. The Borrower is in the process of developing a procurement plan for project implementation which provides the basis for the procurement methods. This plan would be agreed between the Borrower and the Project Team before negotiations. It would be available in the project's database and in the Bank's external website. The Procurement Plan would be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

15. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended two supervision missions to review

the implementation and capacity of the executing agency. One post review mission of procurement actions would be carried per year.

E. Details of the Procurement Arrangements Involving International Competition

1. Goods, Works, and Non Consulting Services

(a) List of contract packages to be procured following ICB:

1	2	3	4	5	6	7	8	9
Ref. No.	**Contract (Description)**	**Estimated Cost**	**Procurement Method**	**P-Q**	**Domestic Preference (yes/no)**	**Review by Bank (Prior / Post)**	**Expected Bid-Opening Date**	**Comments**
	IT Park construction (PPP) -3 contracts	9,200,000	ICB		N	Prior		3 different IT parks

(b) The thresholds for ICB are: Civil Works above US$ 10'000,000; Goods above US$ 500,000. All contracts estimated to cost above US$ 200,000 per contract and all direct contracting would be subject to prior review by the Bank.

2. Consulting Services

(a) List of consulting assignments with short-list of international firms.

1	2	3	4	5	6	7
Ref. No.	**Description of Assignment**	**Estimated Cost**	**Selection Method**	**Review by Bank (Prior / Post)**	**Expected Proposals Submission Date**	**Comments**
B.(b)	Strategies for IT/ITES Clusters (development and implementation)	1,200,000	QCBS	Prior	n.a.	Two processes 600,000 each.
D.(a)	Technical Assistance for Bidding in IT Parks PPPs	900,000	QCBS	Prior	n.a.	3 processes, one for each IT Park
E.(a)	Review of current regulations on PPP for government applications	250,000	QCBS	Prior	04/11/2008	
E.(b)	Technical assistance for Government PPPs	1,000,000	QCBS	Prior	n.a.	3 processes, one for each eGovernment service to be outsourced
F (a)	Legal and regulatory framework	1,200,000	QCBS	Pior	2009	

(b) Consultancy services estimated to cost above US$100,000 per contract and all single source selection of consultants would be subject to prior review by the Bank.

(c) Short lists composed entirely of national consultants: Short lists of consultants for services estimated to cost less than US$ 500,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

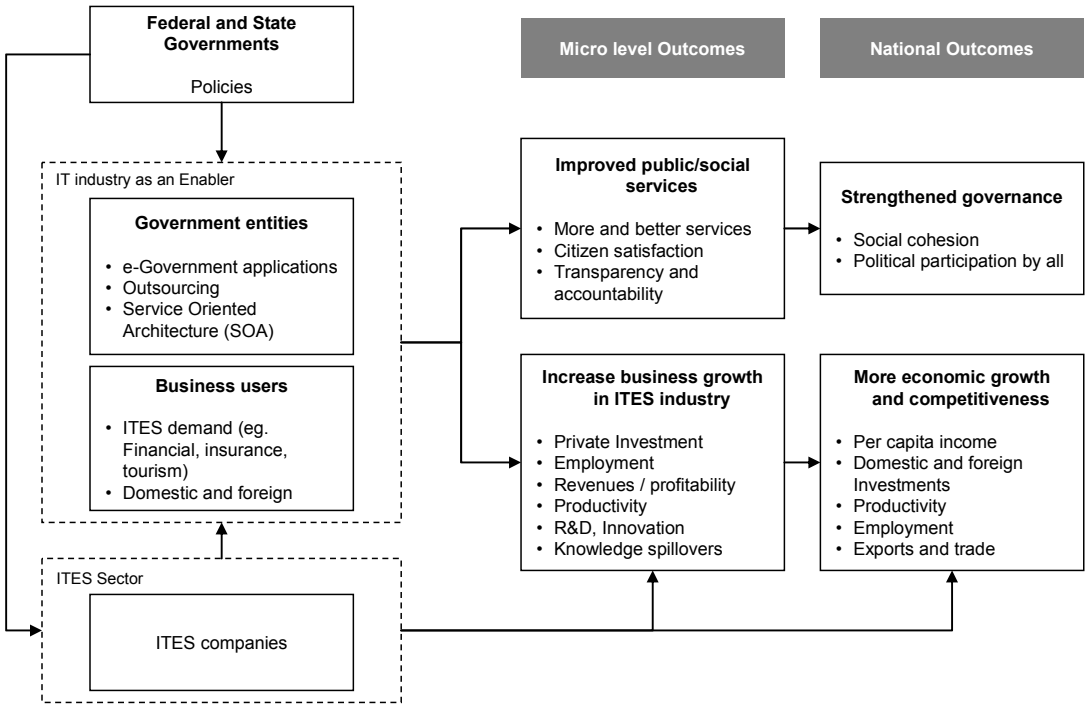
Annex 9: Economic and Financial Analysis

MEXICO: Information Technology (IT) Industry Development

1. This annex will briefly describe the main economic impact of the IT Industry Development (ITID) project. In order to fully assess its impact, the IT industry must not be seen only as a sector itself, but also as an enabler for productive activities of other businesses and public entities. Figure A9.1 shows some of the main effects that the results of the project would have on the broader Mexican economy.

2. As can be seen in the figure, many of the most important effects that the project would have such as knowledge spillovers, increase in productivity across other industries or citizen satisfaction are very difficult to quantify, but are nevertheless worth mentioning in this annex since they help justify public intervention in this industry. Following, we will summarize each of the main effects.

Figure A9.1 Mexico IT Industry Development Project Development Impact



Based on Qiang, Christine, "Framework of ICT's Development Impact", in Information and Communications Technologies for Development 2009, forthcoming.

IT as a sector and as an enabler

3. The project would directly benefit existing and new IT/ITES companies by providing high quality human resources, linkages to multinational corporations (MNCs), access to financing, technical assistance in management skills, and basic common infrastructure. This, together with the e-Government component, would allow Mexican IT/ITES companies attract not only foreign demand but also domestic. Mexico has a very low usage of IT (this industry only accounts for 3.1% of GDP, compared to 5.3% in Latin America, 7.1% in high-income countries and 8.8% in

the US)[65], and ICT investments and use in business can help improve the country's productivity.[66]

4. Specifically, by creating systematic linkages with MNCs, and supporting the outsourcing of several government IT platforms, local demand for outsourcing will increase. The introduction of an SOA approach in government applications, along with the implementation of technology escrow services, would also support IT/ITES SMEs, by allowing them to provide relatively small services and reducing their operational risk, respectively.

5. Thanks to the financing component, SMEs would be able to finance working capital to comply with complex deliveries, through the provision of credit lines and the partial continuation of the PROSOFT guarantees fund (with NAFIN). This component, as mentioned before, would also provide technical assistance in managerial and financing skills so that SMEs may try to access more complex investment instruments.

Micro-level outcomes

6. The impact of the project at the micro level would have mainly two dimensions: an improvement in selected public and social services; and the benefits related to the growth in the ITES industry.

7. As mentioned in annex 4, by developing systematic and high-profile public-private partnerships (PPPs) in the delivery of public services, along with developing a framework and tools that would ease the creation of additional PPPs, it is expected that more government entities would follow suit and consider providing services through PPPs and/or outsourcing part of their IT departments. This would benefit not only end users with better and high quality services, but would also help create an image of transparency and accountability.

8. As a direct outcome of the project in the ITES industry, more investment is expected, along with higher revenues and more employment opportunities due to higher demand for high skilled labor. Additionally, as mentioned before, outsourcing (and/or including more IT components in production processes), other sectors would increase their productivity and competitiveness.

9. The IT Parks component, along with the national IT.LiNk program, would help set right environment for R&D and innovation in many of the specific industries that the Mexican ITES industry serves. Moreover, it has been argued that knowledge spillovers are only realized if local firms have the ability and motivation to invest in absorbing them, and that incentives to attract FDIs should only be put in place under these circumstances.[67] The abovementioned components would create the right environment for sharing and learning experiences.

National Outcomes

10. The two main national outcomes stem from the micro level outcomes mentioned above: stronger governance and economic growth and competitiveness.

11. The project, and in particular the e-Government component, would in fact create a more accountable and transparent environment for the provision of services by government entities.

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[65] "ICT for Development", 2006, The World Bank.

[66] A detailed report on the need for additional ICT investments can be found in "ICT Diffusion to Business: Peer Review Country Report Mexico", OECD, October 2006.

[67] Blomstrom, Magnus and Ari Kokko, "The Economics of Foreign Direct Investment Incentives", Centre for Economic Policy Research, Discussion Paper No.3775, February 2003.

Improving communication channels and service delivery would make the broader population feel closer to government services; and relying on a common framework that fosters public-private partnerships and gives opportunities to SMEs would improve the government's image.

12. In terms of economic growth, the project would create high value-added jobs.[68] Additionally, investments (local and foreign) would increase, as so would exports of ITES and BPO services. As mentioned above, in the domestic arena, more appropriation of IT in production processes (or a more efficient use of IT through outsourcing) would increase the productivity of Mexican companies in other sectors.

Estimation of the Economic Impact of the Project

13. As mentioned before, many of the benefits, such as knowledge spillovers and productivity increases across other sectors are hard to estimate[69]. Nevertheless, this section tries to quantify the direct economic benefit of the project in terms of direct employment under conservative scenarios[70].

14. In order to do this, we applied the simple equation of aggregate demand on the additional salaries of new ITES positions. It is important to note that the positions to consider must only be those that are created by new opportunities that stem from the project rather than improvements in the existing base and/or outsourcing from existing domestic IT departments[71].

15. Basically, this methodology considers the downstream effects on GDP of the new income generated by these workers by applying a multiplier that is applied to investments and government expenditures. In this case, the multiplier is close to 1.8 (that is, for each $1 of investment or government expenditure, national income increases by $1.8).

16. The main assumptions used for this calculation are:

- Only half of the MexicoFIRST graduates per year would have salary increases. This is a relatively conservative assumption, given the strong growth of the sector and demand for skills. However, this reinforces the overarching idea of providing a conservative estimation of benefits.
- The average incremental salary for every position is $400 per month. This is in line with estimations from PROSOFT and consulting firms[72].
- The autonomous consumption threshold is given by the poverty line ($2 per day).
- All savings are assumed to be invested in the country, and all tax collections are assumed to be used for government expenditures.

17. Table A9.1 shows the calculations:

[68] Most of the direct jobs generated by the project would require at least a Bachelors level.
[69] Knowledge spillovers or productivity increases in other sectors are difficult to identify and quantify.
[70] Some estimates from the State of Andhra Pradesh in India suggest the creation of 3-4 additional downstream jobs for each new job in the ITES/BPO industry.
[71] In the first case, only the additional salary should be provided. In the latter, gains in productivity from outsourcing should be assessed.
[72] A.T.Kearney, "Destination Latin America: A Near-Shore Alternative", 2007.

Table A9.1 Economic Impact of New Jobs Created in the Mexican Economy

Economic Impact of New Jobs Created on the Mexican Economy

Main Assumptions

Increase in average salary per month (US$)	400	Source: ProSoft
Income taxes	28%	
Autonomous consumption (per day)	2	$=C_0$ (poverty line)
Gross savings ratio	20%	=s (Source: World Development Indicators, 2006)
Marginal propensity to consume	65%	$=1-s-(C_0/Y)$
Imports as a % of GDP	30%	=m Assumes autonomous imports = 0 (Source: World Development Indicators, 2005)

	2008	2009	2010	2011	2012	
New Jobs	500	2,000	2,500	2,500	2,500	10000 new jobs in the ITES industry
Increase in annual payroll (US$ million)	1.2	7.2	18.0	30.0	42.0	
Increase in Income taxes (US$ million)	0.3	2.0	5.0	8.4	11.8	27.552 million dollars in taxes in 5 years
Increase in Disposable Income (US$ million)	0.9	5.2	13.0	21.6	30.2	
Additional Investment*	0.2	1.0	2.6	4.3	6.0	
Additional Consumption	0.7	4.1	10.4	17.3	24.2	
Increase in GDP (from New Jobs)	1.5	8.8	22.1	36.8	51.6	120.9 million dollars in 5 years
Disbursement Schedule (See Annex 7)	9.5	16.5	19.8	17.5	16.7	
Net Economic Impact of the Project**	**-8.0**	**-7.6**	**2.3**	**19.3**	**34.9**	

Net Present Value of Impact in the Economy (in US$million)

Discount rate	5 years	10 years
5%	30.7	181.6
10%	**23.0**	**155.2**
15%	17.2	134.1

Economic Rate of Return	**52%**

* All savings are assumed to be invested (S=I)

** Conservative, since this calculation only considers the benefits from new jobs.

18. As can be seen, only by analyzing this subset of expected benefits from the project, the investment is largely justified. The net present value of increased production due to the impact of new jobs created by the project under a conservative scenario is of US$23 million just for the project timeline, and could increase up to near US$155 million if five more years are considered. The implied economic rate of return of this analysis is 52%.

Annex 10: Safeguard Policy Issues

MEXICO: Information Technology (IT) Industry Development

Safeguard Policies

1. The Project has triggered both the OP 4.01 and OP 4.12 which requires the preparation of an environmental assessment and resettlement policy framework to comply with the World Bank safeguard policies. Under the following Project, the applicable EA instrument that has been prepared is an Environmental and Social Management Framework (ESMF) since the exact location, design, size or extent of the subproject(s) to be financed under the Project has not yet been determined and the Project has been defined at a program level. The ESMF complied with Bank's Standards.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[ ]
Pest Management (OP 4.09)	[ ]	[ ]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[X]	[ ]
Forests (OP/BP 4.36)	[ ]	[ ]
Safety of Dams (OP/BP 4.37)	[ ]	[ ]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[ ]
Projects on International Waterways (OP/BP 7.50)	[ ]	[ ]

2. An ESMF is an upstream management framework for lending programs with multiple, often unidentified subprojects. The ESMF prepared for the Project would ensure that the requirements of OP 4.01 are met via appropriate screening, impact mitigation, monitoring and training and capacity building measures for each of the downstream subprojects under component D of the loan. A resettlement policy framework was not prepared under the Project as the ESMF has adequately addressed the issue of resettlement and displacement and has provided the appropriate measures on how to incorporate resettlement planning in the preparation and implementation of subprojects.

Objective of the ESMF

3. The ESMF is to be used by the Project in order to ensure that all environmental and social safeguards are adequately addressed. The main purpose of the ESMF is to (a) establish clear procedures and methodologies for the environmental and social assessment, review, approval and implementation of investments to be financed under the project; (b) specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to project investments; (c) determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF; and (d) provide practical information resources for implementing the ESMF.

Legislative Framework

4. The ESMF has been developed to follow both international standards and practices and the local regulations and laws relevant to the Project; in particular, the Regulation of the General Law of Ecological Equilibrium and Environmental Protection on Matters of Environmental Impact Evaluation (Reglamento de la Ley General del Equilibrio Ecológico y la Protección al Ambiente en Materia de Evaluación de Impacto Ambiental- RLGEEPAEIA) which applies specifically to the environmental impact assessment (EIA) process. EIAs are evaluated and either authorized/ conditionally authorized/ rejected by the Environment and Natural Resources Secretariat (Secretaría del Medio Ambiente y Recursos Naturales or SEMARNAT). According to Article 32 Bis of the Federal Public Administration Organic Law (Ley Orgánica de la Administración Pública Federal – LOAPF) and the Internal Regulation of SEMARNAT, this agency's main purpose is to issue and oversees compliance with legislation on environment and natural resources management.

5. In regards to the establishment of operation of an IT industrial park, the most important official Mexican norm in this context is the Classification of Industrial Parks Norm (NMX-R-046-scfi-2005) in which the specifications regarding infrastructure, resource use, greenspace and other attributes of an industrial park in Mexico are outlined in very detailed terms. In addition to this, a number of specific official standards and regulations are applicable to the establishment and operation of an IT park, which includes:

- Maximum Permissible Limits of Pollutants in Wastewater Discharges to Rivers and National Waters (NOM-001- SEMARNAT -1996)
- Solid Particulate Air Pollution Emissions from Stationary Sources (NOM-043-ECOL-1993)
- Hazardous Wastes Characteristics and List (NOM-052- SEMARNAT-2005)
- Noise Emission from Stationary Sources (NOM-081- SEMARNAT -1994)
- Maximum Permissible Limits of Smoke, Total Suspended Particulate, SO2, and NOx from Stationary Sources (NOM-085- SEMARNAT -1994)
- Environmental Specifications for Liquid and Gaseous Fossil Fuels Used in Stationary and Mobile Sources (NOM-086-SEMARNAT- SENAR-SCFI-2005)
- Ecological Criteria on Water Quality (CE-CCA-001)

Institutional Roles and Responsible Stakeholders

6. Under the proposed ESMF, the Secretariat of Economy (SoE) would be responsible for directly implementing the mechanisms and recommendations outlined in the ESMF. Other agencies at the federal and state level and municipal level would also play a key role in the implementation and monitoring of the ESMF. These institutions include:

- Environment and Natural Resources Secretariat (Secretaría del Medio Ambiente y Recursos Naturales)
- Labor and Social Security Secretariat (Secretaría del Trabajo y Previsión Social)
- State Economic Development Agencies
- Municipal Land-Use Authorities

- Municipal Construction Authorities

7. In regards to resettlement issues, the principal agency that overlooks the fair compensation (monetary and in kind) of resettled communities is the Secretariat of Agrarian Reform (Secretaría de Reforma Agraria) which administers the communal lands (ejidos) that cover close to 50% of the Mexican territory.

8. The National Commission for the Development of Indigenous Peoples (Comisión Nacional Para el Desarrollo de los Pueblos Indígenas - CDI) is the federal institution in charge of promoting and overseeing all issues related to indigenous communities. However, in many cases communities are not exclusively indigenous and are therefore looked after in broader terms by the Social Development Secretariat (Secretaría de Desarrollo Social - SEDESOL). SEDESOL would be at the forefront of the resettlement issue in the event that the lands are not communal ("ejidatarias," in which case it would be the Secretaría de Reforma Agraria).

9. In terms of archeological resources, all matters are regulated and administered by the National Institute of Anthropology and History (Instituto Nacional de Antropología e Historia). However, it is important to mention that the EIA process does not require an archeological survey as part of the baseline studies for an EIS and these are still voluntary. However, if this agency is aware of or suspects archeological resources in the project area, it may stop all development works until the area has been surveyed.

EIA Preparation, Review and Appraisal Process

10. Under the proposed ESMF, the EIA preparation, review and appraisal process for subprojects would be conducted by the Project Proponent (SoE) and SEMARNAT as follows:

- Once a subproject has been identified and the location has been selected, the Proponent would carry out a preliminary screening of the subproject to determine what the potential impacts may be. The output of the screening would be a decision as to whether or not an EIA and/or resettlement action plan is required based on the nature and significance of the impacts predicted.
- If the decision cannot be made based on the information provided in the screening form, the Proponent may decide to undertake a follow up scoping which requires a site visit and preliminary baseline study to determine the significance of the impacts, specifically in terms of whether the location would result in involuntary resettlement; the displacement of indigenous communities; and/or whether the proposed site would have major impacts on cultural and/or protected areas. In this case, based on the findings, the Proponent would prepare terms of reference for conducting a full EIA and if necessary the preparation of the associated plans (i.e. Resettlement Action Plan (RAP), an Indigenous Peoples Plan (IPP) and/or a Physical Cultural Resources Management Plan, as applicable).
- Once the EIA has been conducted and alternative project designs and locations have been evaluated, an EIS must be prepared and submitted to SEMARNAT for authorization of an environmental permit. The EIS would include an Environmental Management Plan

which outlines the impact mitigation and action plan and monitoring requirements for the construction and operation of the subproject. If identified as a requirement of the subproject through the screening process, a RAP, an IPP and/or a Physical Cultural Resources Management Plan, or a combination of these, is prepared alongside or as an integrated part of the EMP.

- In addition, if a RAP and/or IPP were required, these plans should be submitted to the Secretariat of Agrarian Reform to agree on the measures of compensation and resettlement prior to approval of the subproject.
- SEMARNAT would review the EIS and make a decision as to whether a permit can be granted. If the EIS fails to meet the agency's and World Bank requirements, the EIS must be re-submitted. Once a permit has been granted, the Proponent would need to complete the necessary compensation and resettlement plans outlined under the RAP that was prepared for the specific subproject.
- Once the compensation and resettlement of project affected parties has been completed, the Proponent may begin construction of the project.
- Contractors would submit monthly progress reports on the implementation of the EMP and associated plans for each subproject to the Proponent.
- The SoE would undertake an annual environmental and social audit of the ESMF to ensure that the recommendations outlined are being adequately addressed and to verify whether any changes are needed in the mechanisms provided in the ESMF (e.g. modification of the screening tool).
- Accordingly, the supervision arrangements for the EMP should summarize key areas on which supervision would focus—critical risks to implementation of the EMP and how such risks would be monitored during implementation and agreements reached with the Proponent.

Main Environmental and Social Impacts and Benefits of the Project

11. The key environmental and social impacts and benefits which may results from activities financed under the Project include:

- Environmental benefits from economies of scale by the provision of common wastewater and solid waste management facilities; and environmental planning.
- Socioeconomic benefits derived from higher living standards, the establishment of knowledge-based companies, innovation, increased employment and academic opportunities, networking of research organizations and private industry, and the development of industries like real estate, retail, lifestyle and recreation.
- Noise and vibration during construction activities may be caused by the operation of pile drivers, earth moving and excavation equipment, concrete mixers, cranes and the transportation of equipment, materials and people.
- Soil erosion may be caused by exposure of soil surfaces to rain and wind during site clearing, earth moving, and excavation activities. The mobilization and transport of soil particles may, in turn, result in sedimentation of surface drainage networks, which may

result in impacts to the quality of natural water systems and ultimately the biological systems that use these waters.

- Air quality may be impacted during construction by emissions of fugitive dust caused by a combination of on-site excavation and movement of earth materials, contact of construction machinery with bare soil, and exposure of bare soil and soil piles to wind. During operation, emissions may be generated from kitchen stacks; air conditioning and central heating systems; fuel storage tanks (if present); and diesel motor vehicles. Specific emissions related to the semiconductor and electronics manufacturing (in case such a plant is built within the IT Parks) include greenhouse gases, toxic, reactive, and corrosive substances (for example, acid fumes, dopant, cleaning gases, and volatile organic compounds [VOCs]), resulting from diffusion, cleaning, and wet-etching processes.
- Non-hazardous solid waste generated at construction sites may include excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid waste generated during operation includes office, kitchen, and domestic wastes.
- Hazardous solid waste that may be generated includes spent solvents and oily rags; empty paint cans; chemical containers; used lubricating oil; used batteries (such as nickel-cadmium or lead acid); and lighting equipment, such as lamps or lamp ballasts. Specific facilities, such as semiconductors (i.e. chip) and electronic manufacturing, -that might be built in the IT Parks- may include special hazardous wastes, such as those generated from spent cleaning solutions, sludge from wastewater treatment, spent epoxy material (printed circuit board [PCB] and semiconductor manufacturing), spent cyanide solutions (electroplating), and soldering fluxes and metals residue (printed circuit board assembly [PCBA]).
- Hazardous materials include the potential for release of petroleum based products, such as lubricants, hydraulic fluids, or fuels during their storage, transfer, or use in equipment. These materials may be encountered during decommissioning activities in building components or industrial process equipment.
- Wastewater discharges may include sanitary wastewater with effluents from domestic sewage, food service, and laundry facilities serving site employees. Miscellaneous wastewater from laboratories, medical infirmaries, water softening etc. may also be discharged to the sanitary wastewater treatment system. Process wastewater from a number of semiconductor and PCBA manufacturing steps (if these are built within IT Parks) may include organic compounds, particularly non-chlorinated solvents (e.g. pyrrole-based, aminebased, fluoro / ether-based resists, isopropyl alcohol, and tetramethylammonium hydroxide) from cleaning, resist drying, developing, and resist stripping; metals and cyanides from metallization and CMP processes; acids and alkalis from spent cleaning solutions, process operations such as etching, cleaning, and metallization, among others; and suspended solids from film residues and metallic particles (derived from photolithography, metallization, backgrinding, and dicing processes).

- Energy consumption in semiconductor manufacturing involves significant energy use.
- Involuntary physical or economic resettlement during land acquisition to develop the IT Parks that may include: loss of shelter; loss of assets or access to assets; or loss of income sources or means of livelihood, whether or not the affected persons must move to another location.
- Indigenous peoples, although unlikely to be encountered in the outskirts of the cities, where the subprojects would be developed, should be considered during the EA. Impacts to these vulnerable groups include loss of identity, culture, and customary livelihoods, as well as exposure to disease. In addition, indigenous populations might have limited capacity to defend their interests in and rights to lands, territories, and other productive resources, and/or restricts their ability to participate in and benefit from development.
- Archaeological findings may be encountered and potentially damaged during excavation activities of construction works. Culturally sensitive areas (i.e. where cultural practices or artifacts are evident) may become impacted both by construction and operation works, by modifying the religious or cultural value of a certain area.

Proposed Mitigation Measures

12. Proposed mitigation measures for the potential impacts described above include:

13. Noise and vibration

- Planning activities in consultation with local communities so that activities that generate noise are scheduled during the day and reduce disturbance
- Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines
- Avoiding or minimizing project transportation through community areas

14. Soil Erosion

- Reducing or preventing erosion by:
    - Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical
    - Contouring and minimizing length and steepness of slopes
    - Mulching to stabilize exposed areas
    - Re-vegetating areas promptly, where appropriate
    - Designing channels and ditches for post-construction flows
    - Lining steep channel and slopes (e.g. use jute matting)
- Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical.
- Limiting access road gradients to reduce runoff-induced erosion
- Providing adequate road drainage based on road width, surface material, compaction, and maintenance

- Depending on the potential for adverse impacts, installing free-spanning structures (e.g., single span bridges) for road watercourse crossings
- Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented
- Providing adequate drainage systems to minimize and control infiltration

15. Air Quality

- Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone)
- Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content
- Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements
- Managing emissions from mobile sources, including preventive maintenance
- Avoiding open burning of solid
- Considering height and wind direction when planning the location of stacks
- Implementing appropriate filters in stacks
- Using vapor recovery systems, where applicable, to control losses of volatile organic compounds (VOC's) from storage tanks

16. Solid Waste

<u>General Waste Management</u>

- Waste Management Planning; waste characterization according to composition, source, types of wastes produced, generation rates, or according to local regulatory requirements
- Waste Prevention: Processes should be designed and operated to prevent, or minimize, the quantities of wastes generated and hazards associated with the wastes generated
- Recycling and Reuse: the total amount of waste may be significantly reduced through the implementation of recycling plans
- Treatment and Disposal: If waste materials are still generated after the implementation of feasible waste prevention, reduction, reuse, recovery and recycling measures, waste materials should be treated and disposed of and all measures should be taken to avoid potential impacts to human health and the environment. Selected management approaches should be consistent with the characteristics of the waste and local regulations

<u>Hazardous Waste Management</u>

- Segregation: Hazardous wastes should always be segregated from non-hazardous wastes. If generation of hazardous waste can not be prevented, its management should focus on the prevention of harm to health, safety, and the environment, according to the following additional principles.
- Waste storage: to prevent or control accidental releases to air, soil, and water resources.
- Transportation: On-site and Off-site transportation of waste should be conducted so as to prevent or minimize spills, releases, and exposures to employees and the public. All waste

containers designated for off-site shipment should be secured and labeled with the contents and associated hazards, be properly loaded on the transport vehicles before leaving the site, and be accompanied by a shipping paper (i.e. manifest) that describes the load and its associated hazards.

- Treatment and Disposal; In addition to the recommendations for treatment and disposal applicable to general wastes, the following issues specific to hazardous wastes should be considered:
    - In the absence of qualified commercial or government-owned waste vendors (taking into consideration proximity and transportation requirements), facilities generating waste should consider having all required permits, certifications, and approvals, of applicable government authorities.
    - In the absence of qualified commercial or government-owned waste disposal operators (taking into consideration proximity and transportation requirements), project sponsors should consider installing on-site waste treatment or recycling processes. As a final option, constructing facilities that would provide for the environmental sound long-term storage of wastes on-site (as described elsewhere in the General EHS Guidelines) or at an alternative appropriate location up until external commercial options become available.

<u>Hazardous Material</u>

Techniques for prevention, minimization, and control of these impacts include:

- Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids
- Using impervious surfaces for refueling areas and other fluid transfer areas
- Training workers on the correct transfer and handling of fuels and chemicals and the response to spills
- Providing portable spill containment and cleanup equipment on site and training in the equipment deployment
- Assessing the contents of hazardous materials and substances and petroleum-based products in building systems (e.g. PCB containing electrical equipment, asbestos-containing building materials) and process equipment and removing them prior to initiation of decommissioning activities, and managing their treatment and disposal

17. Wastewater Discharges

Recommended sanitary wastewater management strategies include:

- Segregation of wastewater streams to ensure compatibility with selected treatment option (e.g. septic system which can only accept domestic sewage);
- Segregation and pretreatment of oil and grease containing effluents (e.g. use of a grease trap) prior to discharge into sewer systems;
- If sewage from the industrial facility is to be discharged to surface water, treatment to meet national or local standards for sanitary wastewater discharges or, in their absence, the international guideline values applicable to sanitary wastewater discharges, is required;

- If sewage from the industrial facility is to be discharged to either a septic system, or where land is used as part of the treatment system, treatment to meet applicable national or local standards for sanitary wastewater discharges is required;
- Sludge from sanitary wastewater treatment systems should be disposed in compliance with local regulatory requirements, in the absence of which disposal has to be consistent with protection of public health and safety, and conservation and long term sustainability of water and land resources.

18. Involuntary Resettlement

- IT Park locations would preferably located in the outskirts of the cities, with commuting access (i.e. roads, train, public transportation, airports) to universities and residential areas in order to attract human capital. State-owned land would be preferred as opposed to private land.
- Involuntary resettlement should be avoided where feasible, or minimized, exploring all viable alternative project designs.
- Where it is not feasible to avoid resettlement, resettlement activities should provide sufficient investment resources to enable the persons displaced by the project to share in project benefits. Displaced persons should participate in planning and implementing resettlement programs and should be assisted in their efforts to improve their livelihoods and standards of living or at least to restore them, in real terms, to pre-displacement levels or to levels prevailing prior to the beginning of project implementation, whichever is higher.
- If a subproject is identified to require resettlement; a Resettlement Action Plan should be prepared.

19. Physical cultural Resources

- Assess the potential for existence of physical cultural resources during site selection.
- If physical cultural resources may be lost, full site protection should be implemented.
- Provisions for managing chance finds, salvage and documentation.
- In other sensitive sites, have experts supervise construction works, and stop work in case findings are encountered and a survey must be carried out.
- Training of personnel for recognition of findings and notification to supervisor.
- Control access to site where finding occurred.

20. Indigenous peoples

- Avoid the development of IT Parks where indigenous communities are present or have collective attachment to the area.
- If indigenous peoples are present in, or have collective attachment to, the project area, a social assessment to evaluate the project's potential positive and adverse effects on the Indigenous Peoples, and to examine project alternatives where adverse effects may be significant, should be performed.
- Engage free, prior, and informed consultation with the indigenous peoples' communities during project appraisal, implementation, monitoring, and evaluation.

- Install additional measures, including project design modification that may be required to address adverse effects on the indigenous peoples and to provide them with culturally appropriate project benefits.
- Any formal agreements reached with Indigenous Peoples' communities and/or the IPOs.

Public Consultation and Disclosure

21. Public consultation and disclosure, although and important element in the process of gaining social acceptance of a project, is not mandated in Mexico to the same degree that international best practices call. The applicable consultation requirements in Mexico are stated in Article 34 of the Ecological Equilibrium and Protection of the Environment General Law and 40 to 43 of its Regulation in the Matter of Environmental Impact Evaluation, establishing the mechanisms by which social participation (or consultation) can be requested and made.

22. Under the proposed ESMF process for the IT project, a consultation/workshop would be held in Mexico City with the principal stakeholders prior to the generation of the EIS or the regular consultation opportunities in the Mexican context. In addition, during the environmental impact assessment process of the subprojects, consultations would need to be conducted by the project developers with project-affected groups and local nongovernmental organizations (NGOs) about the project's environmental aspects and would take their views into account. Consultation would need to be initiated as early as possible, relevant material would be provided in a timely manner prior to consultation and in a form and language that are understandable and accessible to the groups being consulted.

Training on the Implementation of the ESMF Guidelines

23. This training would focus on the process by which the ESMF would be implemented by the SoE, with a specific focus on the Guidelines for Industrial Estates and Construction of Facilities.

24. A detailed 2-day training course would be delivered within the first month of appraising the Project. The target audience would be the Secretary of Economy (SoE); SEMARNAT; and Municipalities that would be part of the lending process. It would be the responsibility of the SoE to ensure that short refresher trainings on a demand basis are provided to staff within the stakeholder groups. This could be a 1-day presentation briefly outlining the procedures of the ESMF.

Module	*Duration*
Day 1	*1 day*
Objective of the ESMF	
Key stakeholders with a role in the ESMF	
Relevant legislative and regulatory acts and World Bank safeguard policies	
Structure and role of SoE and SEMARNAT as relates to the project	
Day 2	*1 day*
Summary of guidelines for the IT Parks Development Project	
Screening	
Appraisal and approval	
Disclosure	
Annual Review	
Annual Reporting	
Capacity building requirements	
Budgeting and annual workplans	
Total	*2 days*

Monitoring

25. The ESMF outlines a number of indicators as part of the ESMF implementation which would be included in the overall project monitoring. In addition, an Annual Audit on ESMF Implementation would be prepared by the implementing agency (SoE) and submitted to SEMARNAT.

Annex 11: Project Preparation and Supervision

MEXICO: Information Technology (IT) Industry Development

	Planned	Actual
PCN review	06/18/2007	06/18/2007
Initial PID to PIC	09/11/2007	09/11/2007
Initial ISDS to PIC	10/30/2007	10/30/2007
Appraisal	01/15/2008	01/21/2008
Negotiations	04/10/2008	06/03/2008
Board/RVP approval	05/13/2008	
Planned date of effectiveness	08/04/2008	
Planned date of mid-term review	09/01/2010	
Planned closing date	06/30/2013	

Key institutions responsible for preparation of the project:

- Secretaría de Economía, Dirección General de Comercio Interno y Economía Digital
- Nacional Financiera

Bank staff and consultants who worked on the project included:

Name	Title	Unit
Eloy Eduardo Vidal	Lead Telecommunications Engineer	CITPO
Randeep Sudan	Sr. ICT Policy Specialist	CITPO
Esperanza Lasagabaster	Sr. Financial Economist	LCSPF
Arturo Muente-Kunigami	E T Consultant	CITPO
Felix Prieto	Sr. Procurement Specialist	LCSPT
Gabriel Peñaloza	Procurement Analyst	LCSPT
Manuel Vargas	Sr. Financial Management Specialist	LCSFM
Víctor Ordoñez	Sr. Financial Management Specialist	LCSFM
Gunars Platais	Sr. Environmental Economist	LCSEN
Catarina Portelo	Counsel	LEGLA
Matías Bendersky	Consultant	LEGPS
Jannina Flores	Program Assistant	CITPO

Bank funds expended to date on project preparation:

1. Bank resources: US$285,000
2. Trust funds: 0
3. Total: US$285,000

Estimated Approval and Supervision costs:

1. Estimated annual supervision cost: US$93,000

Annex 12: Documents in the Project File

MEXICO: Information Technology (IT) Industry Development

ATKearney. 2006. "Development of an Information Technology and Information Technology Enabled Services (IT/ITES) Offshoring Industry in Mexico: Funding Mechanism for Technical Assistance and Advisory Services – FMTAAS# 548505." Financial Proposal. Mexico: ATKearney.

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Bendersky, Matías. 2007. "Legal and Regulatory Barriers in the Development of Information Technologies and Information Technology Enabled Services (IT/ITES)." Recommendation for the Project. Washington, D.C.

InfoDev. 2007. "Financing Technology Entrepreneurs and SMEs in Developing Countries: Challenges and Opportunities." Report. Washington, D.C.

PriceWaterHouseCoopers. 2007. "International Best Practice for Establishment of Sustainable IT Parks: Review of Experiences in Select Countries, Including Three Country Studies." Washington, D.C.

World Bank. 2008. "Environmental and Social Management Framework IT Projects involving IT Parks." ESMF Report. Washington, D.C.

Annex 13: Statement of Loans and Credits

MEXICO: Information Technology (IT) Industry Development

			Original Amount in US$ Millions						Difference between expected and actual disbursements	
Project ID	FY	Purpose	IBRD	IDA	SF	GEF	Cancel.	Undisb.	Orig.	Frm. Rev'd
P110849	2008	MX Climate Change DPL/DDO	501.25	0.00	0.00	0.00	0.00	501.25	0.84	0.00
P088996	2008	MX (CRL2) Integrated Energy Services	15.00	0.00	0.00	0.00	0.00	15.00	1.67	0.00
P087038	2006	MX Environmental Services Project	45.00	0.00	0.00	0.00	0.00	32.34	6.51	0.00
P088728	2006	MX (APL1) School-Based Management Prog	240.00	0.00	0.00	0.00	0.00	59.70	-17.22	0.00
P088732	2006	MX Access to Land for Young Farmers	100.00	0.00	0.00	0.00	0.75	46.61	18.95	0.00
P091695	2006	MX Modernization Water & Sanit Sector TA	25.00	0.00	0.00	0.00	0.19	18.09	13.61	0.00
P085593	2006	MX (APL I) Tertiary Educ Student Ass	180.00	0.00	0.00	0.00	0.00	143.74	71.54	0.00
P088080	2005	MX Housing & Urban Technical Assistance	7.77	0.00	0.00	0.00	4.89	1.29	5.83	0.00
P074755	2005	MX State Judicial Modernization Project	30.00	0.00	0.00	0.00	0.00	30.00	25.00	0.00
P089865	2005	MX-(APL1) Innov. for Competitiveness	250.00	0.00	0.00	0.00	0.00	109.97	0.56	0.00
P087152	2004	MX (CRL1)Savings & Rurl Finance(BANSEFI)	75.50	0.00	0.00	0.00	0.38	8.75	-27.14	0.00
P080149	2004	MX Decentralized Infrastructure Developm	108.00	0.00	0.00	0.00	0.00	19.56	9.56	0.00
P035751	2004	MX Community Forestry II (PROCYMAF II)	21.30	0.00	0.00	0.00	0.00	5.48	5.15	0.00
P070108	2003	MX Savings & Credit Sector Strengthening	64.60	0.00	0.00	0.00	0.00	23.77	2.77	0.00
P066321	2001	MX: III BASIC HEALTH CARE PROJECT	350.00	0.00	0.00	0.00	0.00	103.84	103.84	19.85
		Total:	2,013.42	0.00	0.00	0.00	6.21	1,119.39	221.47	19.85

MEXICO
STATEMENT OF IFC's
Held and Disbursed Portfolio
In Millions of US Dollars

		Committed				Disbursed			
		IFC				IFC			
FY Approval	Company	Loan	Equity	Quasi	Partic.	Loan	Equity	Quasi	Partic.
1998	Ayvi	2.14	0.00	0.00	0.00	2.14	0.00	0.00	0.00
	BBVA-Bancomer	6.63	0.00	0.00	0.00	6.63	0.00	0.00	0.00
2006	Banco del Bajio	0.00	45.00	0.00	0.00	0.00	0.00	0.00	0.00
1995	Baring MexFnd	0.00	0.29	0.00	0.00	0.00	0.29	0.00	0.00
1999	Baring MexFnd	0.00	1.41	0.00	0.00	0.00	1.41	0.00	0.00
1998	CIMA Puebla	3.25	0.00	0.00	0.00	3.25	0.00	0.00	0.00
2005	CMPDH	14.50	0.00	0.00	0.00	14.50	0.00	0.00	0.00
2006	Carlyle Mexico	0.00	20.00	0.00	0.00	0.00	8.44	0.00	0.00

	Chiapas-Propalma	0.00	0.97	0.00	0.00	0.00	0.97	0.00	0.00
2001	Compartamos	0.00	0.66	0.00	0.00	0.00	0.66	0.00	0.00
2004	Compartamos	15.58	0.00	0.00	0.00	15.58	0.00	0.00	0.00
2002	Coppel	25.71	0.00	0.00	0.00	25.71	0.00	0.00	0.00
1999	Corsa	2.79	3.00	0.00	0.00	2.79	3.00	0.00	0.00
2005	Credito y Casa	21.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2004	DTM	17.04	0.00	0.00	0.00	17.04	0.00	0.00	0.00
2001	Ecomex	4.00	0.00	0.24	0.00	2.00	0.00	0.24	0.00
2000	Educacion	3.54	0.00	0.00	0.00	3.54	0.00	0.00	0.00
2005	FINEM	15.12	0.67	0.00	0.00	4.86	0.67	0.00	0.00
1998	Forja Monterrey	3.71	3.00	0.00	3.71	3.71	3.00	0.00	3.71
2001	GFNorte	95.63	0.00	0.00	0.00	45.63	0.00	0.00	0.00
1996	GIBSA	5.41	0.00	0.00	18.19	5.41	0.00	0.00	18.19
2000	GIRSA	22.50	0.00	0.00	30.00	22.50	0.00	0.00	30.00
2005	GMAC Financiera	120.67	0.00	0.00	0.00	32.52	0.00	0.00	0.00
1998	Grupo Calidra	4.00	6.00	0.00	0.00	4.00	6.00	0.00	0.00
2004	Grupo Calidra	20.89	0.00	0.00	0.00	20.15	0.00	0.00	0.00
1989	Grupo FEMSA	0.00	0.02	0.00	0.00	0.00	0.02	0.00	0.00
1996	Grupo Posadas	1.60	0.71	0.00	0.00	0.00	0.71	0.00	0.00
1999	Grupo Posadas	0.00	0.00	10.00	0.00	0.00	0.00	10.00	0.00
1998	Grupo Sanfandila	4.09	0.00	0.00	1.33	4.09	0.00	0.00	1.33
2005	Grupo Sanfandila	0.00	0.00	0.00	6.49	0.00	0.00	0.00	0.00
	Grupo Su Casita	0.00	7.08	0.00	0.00	0.00	7.08	0.00	0.00
2006	Grupo Su Casita	0.00	7.68	0.00	0.00	0.00	7.68	0.00	0.00
	Infologix BVI	3.50	0.00	0.00	0.00	3.50	0.00	0.00	0.00
2000	Innopack	0.00	12.81	0.00	0.00	0.00	12.81	0.00	0.00
	Interoyal	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00
2005	La Bene	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	Lomas de Real	47.46	0.00	20.00	95.22	46.18	0.00	20.00	95.22
1998	Merida III	24.86	0.00	0.00	52.30	24.86	0.00	0.00	52.30
2003	Mexmal	0.00	0.00	0.80	0.00	0.00	0.00	0.80	0.00
1995	Mexplus Puertos	0.00	0.55	0.00	0.00	0.00	0.55	0.00	0.00
1999	Mexplus Puertos	0.00	0.25	0.00	0.00	0.00	0.25	0.00	0.00
2003	Occidental Mex	24.90	0.00	0.00	33.20	24.90	0.00	0.00	33.20
	Occihol	0.00	9.99	0.00	0.00	0.00	9.99	0.00	0.00
2003	POLOMEX S.A.	4.94	0.00	0.00	0.00	4.94	0.00	0.00	0.00
2000	Pan American	0.00	0.92	0.00	0.00	0.00	0.92	0.00	0.00
2002	Puertas Finas	8.94	0.00	0.00	0.00	8.94	0.00	0.00	0.00
2000	Rio Bravo	44.10	0.00	0.00	48.26	44.10	0.00	0.00	48.26
2004	SSA Mexico	44.50	0.00	0.00	0.00	44.50	0.00	0.00	0.00
2000	Saltillo S.A.	31.16	0.00	0.00	34.89	31.16	0.00	0.00	34.89
2000	Servicios	5.92	0.65	0.00	5.07	5.92	0.65	0.00	5.07
2004	Su Casita	16.49	0.00	0.00	0.00	16.49	0.00	0.00	0.00
2005	Su Casita	50.68	0.00	0.00	0.00	50.68	0.00	0.00	0.00
2006	Su Casita	71.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1997	TMA	1.06	0.00	3.29	3.68	1.06	0.00	3.29	3.68
2005	UNITEC	30.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2003	Valle Hermoso	50.68	0.00	20.00	103.49	50.10	0.00	20.00	103.49
2006	Vuela	40.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

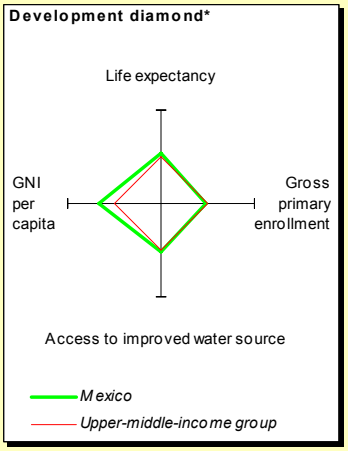
	ZN Mexico II	0.00	7.07	0.00	0.00	0.00	5.51	0.00	0.00
1998	ZN Mxc Eqty Fund	0.00	1.69	0.00	0.00	0.00	1.69	0.00	0.00
	Total portfolio:	915.96	130.43	54.33	435.83	593.38	72.31	54.33	429.34

		Approvals Pending Commitment			
FY Approval	Company	Loan	Equity	Quasi	Partic.
2006	Bajio	0.08	0.00	0.00	0.00
2001	Ecomex	0.00	0.00	0.00	0.00
2003	Mexmal	0.00	0.00	0.01	0.00
2005	Coppel II	0.01	0.00	0.01	0.00
2000	Educacion	0.00	0.00	0.00	0.00
2006	Metro-WHL	0.05	0.00	0.00	0.00
2001	GFNorte-CL	0.00	0.00	0.00	0.10
2006	BANSEFI AFORE	0.00	0.00	0.00	0.00
2006	Protego Sofol	0.00	0.00	0.00	0.00
2005	Credito y Casa	0.02	0.00	0.00	0.00
2006	Mexico MBS CEF	0.03	0.00	0.00	0.00
2005	Pan American 2	0.00	0.00	0.00	0.00
1998	Cima Hermosillo	0.00	0.00	0.01	0.00
2007	Nexxus III Fund	0.00	0.02	0.00	0.00
2006	Compartamos III	0.05	0.00	0.00	0.00
2006	Irapuato-Piedad	0.01	0.00	0.00	0.00
2006	Su Casita WHL II	0.17	0.00	0.00	0.00
	Total pending commitment:	0.42	0.02	0.03	0.10

Annex 14: Country at a Glance

MEXICO: Information Technology (IT) Industry Development

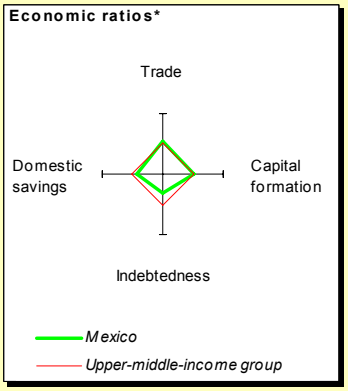
POVERTY and SOCIAL	Mexico	Latin America & Carib.	Upper-middle-income
2006			
Population, mid-year *(millions)*	104.2	556	810
GNI per capita *(Atlas method, US$)*	7,830	4,767	5,913
GNI *(Atlas method, US$ billions)*	816.1	2,650	4,790
Average annual growth, 2000-06			
Population *(%)*	1.0	1.3	0.8
Labor force *(%)*	1.4	2.1	1.3
Most recent estimate (latest year available, 2000-06)			
Poverty *(% of population below national poverty line)*	18	..	..
Urban population *(% of total population)*	76	78	75
Life expectancy at birth *(years)*	75	73	70
Infant mortality *(per 1,000 live births)*	22	26	26
Child malnutrition *(% of children under 5)*	..	..	..
Access to an improved water source *(% of population)*	97	91	93
Literacy *(% of population age 15+)*	92	90	93
Gross primary enrollment *(% of school-age population)*	109	118	112
Male	110	120	106
Female	108	116	104



KEY ECONOMIC RATIOS and LONG-TERM TRENDS

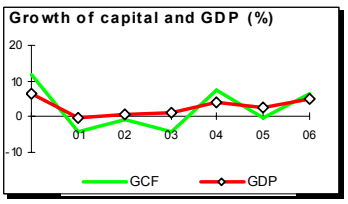
	1986	1996	2005	2006
GDP *(US$ billions)*	129.4	332.9	767.7	839.2
Gross capital formation/GDP	18.5	23.2	21.8	22.0
Exports of goods and services/GDP	17.3	32.1	30.0	31.9
Gross domestic savings/GDP	22.4	25.3	20.3	20.7
Gross national savings/GDP	17.9	22.5	21.2	21.9
Current account balance/GDP	-1.1	-0.8	-0.6	-0.2
Interest payments/GDP	5.9	2.4	1.3	..
Total debt/GDP	77.9	46.9	21.8	..
Total debt service/exports	43.7	35.2	17.2	..
Present value of debt/GDP	..	..	23.3	..
Present value of debt/exports	..	..	69.8	..

	1986-96	1996-06	2005	2006	2006-10
(average annual growth)					
GDP	2.8	3.1	2.8	4.8	3.6
GDP per capita	0.9	1.9	1.8	3.6	1.9
Exports of goods and services	9.6	7.1	7.1	11.1	5.6



STRUCTURE of the ECONOMY

	1986	1996	2005	2006
(% of GDP)				
Agriculture	10.3	6.3	3.8	3.9
Industry	34.9	28.4	26.0	26.7
Manufacturing	24.8	21.5	17.8	18.0
Services	54.8	65.4	70.2	69.4
Household final consumption expenditure	68.5	65.1	68.2	67.6
General gov't final consumption expenditure	9.1	9.6	11.5	11.7
Imports of goods and services	13.4	30.0	31.5	33.2

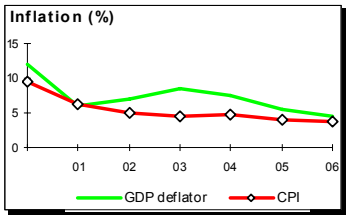


	1986-96	1996-06	2005	2006
(average annual growth)				
Agriculture	1.3	1.8	-2.1	4.8
Industry	3.2	2.5	1.7	5.0
Manufacturing	3.5	2.3	1.4	4.7
Services	2.7	3.5	3.6	4.7
Household final consumption expenditure	3.0	5.0	4.6	5.1
General gov't final consumption expenditure	2.2	1.2	0.4	6.0
Gross capital formation	4.3	3.5	-0.6	6.6
Imports of goods and services	14.1	8.9	8.6	12.2

Note: 2006 data are preliminary estimates.
This table was produced from the Development Economics LDB database.
* The diamonds show four key indicators in the country (in bold) compared with its income-group average. If data are missing, the diamond will be incomplete.

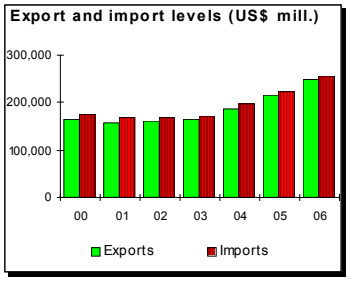
PRICES and GOVERNMENT FINANCE

	1986	1996	2005	2006
Domestic prices				
(% change)				
Consumer prices	86.2	34.4	4.0	3.6
Implicit GDP deflator	73.6	30.7	5.5	4.5
Government finance				
(% of GDP, includes current grants)				
Current revenue	31.6	23.0	23.3	24.7
Current budget balance	-8.6	3.5	3.1	3.6
Overall surplus/deficit	-13.5	-0.1	-0.1	0.1



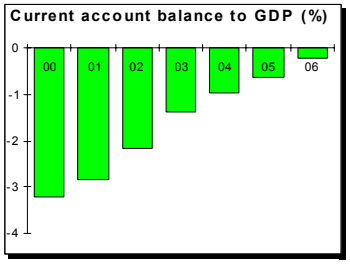
TRADE

	1986	1996	2005	2006
(US$ millions)				
Total exports (fob)	21,804	96,000	214,233	250,292
Oil	6,307	11,654	31,891	39,124
Agriculture	2,098	3,592	6,008	6,986
Manufactures	12,888	80,305	175,166	202,865
Total imports (cif)	16,784	89,469	221,820	256,131
Food	..	..	..	..
Fuel and energy	..	..	..	..
Capital goods	2,954	10,922	26,216	30,525
Export price index *(2000=100)*	75	96	127	136
Import price index *(2000=100)*	76	98	114	117
Terms of trade *(2000=100)*	99	98	112	116



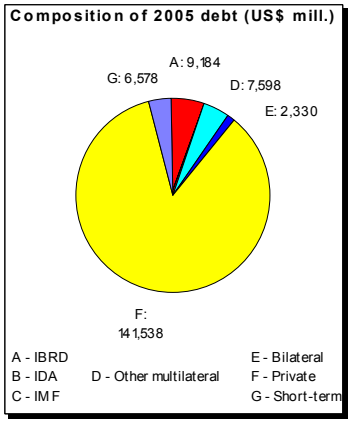
BALANCE of PAYMENTS

	1986	1996	2005	2006
(US$ millions)				
Exports of goods and services	26,376	106,601	230,299	266,329
Imports of goods and services	21,805	99,700	242,599	278,490
Resource balance	4,571	6,902	-12,300	-12,161
Net income	-7,520	-13,940	-13,093	-13,161
Net current transfers	1,575	4,531	20,484	23,468
Current account balance	-1,374	-2,508	-4,908	-1,853
Financing items (net)	1,256	6,369	12,081	864
Changes in net reserves	117	-3,861	-7,173	989
Memo:				
Reserves including gold *(US$ millions)*	5,780	19,456	74,102	..
Conversion rate *(DEC, local/US$)*	0.6	7.6	10.9	10.9



EXTERNAL DEBT and RESOURCE FLOWS

	1986	1996	2005	2006
(US$ millions)				
Total debt outstanding and disbursed	100,891	156,255	167,228	..
IBRD	5,566	12,568	9,184	4,211
IDA	0	0	0	0
Total debt service	12,944	40,418	43,994	..
IBRD	819	2,372	1,828	6,562
IDA	0	0	0	0
Composition of net resource flows				
Official grants	77	30	106	..
Official creditors	1,466	-7,596	-195	..
Private creditors	-911	12,230	866	..
Foreign direct investment (net inflows)	2,036	9,186	18,772	..
Portfolio equity (net inflows)	0	2,801	3,353	..
World Bank program				
Commitments	1,272	187	892	147
Disbursements	1,016	1,051	997	1,429
Principal repayments	424	1,409	1,379	6,100
Net flows	592	-359	-382	-4,671
Interest payments	395	962	449	461
Net transfers	197	-1,321	-831	-5,132



Note: This table was produced from the Development Economics LDB database. 9/28/07

MEXICO
IT COMPANIES AND IT PARKS

APRIL 2008

IBRD 35903