

FINANCING
TECHNOLOGY
ENTREPRENEURS &
SMES IN DEVELOPING
COUNTRIES:
CHALLENGES AND
OPPORTUNITIES

PERU
Country Study

AN *infoDev* PUBLICATION PREPARED BY

Roberto Zavatta

Economisti Associati SRL in
collaboration with

Zernike Group BV

Meta Group SRL

June 2008

Information for
Development Program


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ABBREVIATIONS AND ACRONYMS

APESOFT	Peruvian Software Association (<i>Asociacion Peruana de Software</i>)	ICTE	ICT Enabled
BPO	Business process outsourcing	IFC	International Finance Corporation
CAF	Andean Promotion Corporation (<i>Corporacion Andina de Fomento</i>)	IFI	International Financial Institutions
CGF	Credit Guarantee Fund	ISP	Internet Service Provider
COFIDE	Financial Corporation for Development (<i>Corporación Financiera de Desarrollo</i>)	IT	Information Technology
CRM	Customer Relationship Management	MIF	Multilateral Investment Fund
EBRD	European Bank for Reconstruction and Development	MNC	Multinational Corporation
EC	European Commission	RCP	Peruvian Scientific Network (<i>Red Científica Peruana</i>)
ERP	Enterprise Resource Planning	SBS	Superintendence of Banks and Insurance (<i>Superintendencia de Bancos y Seguros</i>)
EU	European Union	SME	Small and Medium Enterprise
GTZ	German Development Cooperation Agency	TdP	<i>Telefonica del Peru</i>
IADB	Inter-American Development Bank	TOR	Terms of Reference
ICT	Information and Communication Technology	VAS	Value-added Services
		VC	Venture Capital
		VoIP	Voice over Internet Protocol

Exchange Rates

US\$ 1 = PEN 3.36398 (average 2006)

EUR 1 = PEN 4.22506 (average 2006)



EXECUTIVE SUMMARY

The Peruvian ICT/ICTE industry is still in its infancy. Most of the enterprises active in this sector have been established in the past decade, and are either small or micro-sized. The sector is not very diversified. Most of the players concentrate on relatively basic business models, such as the sale and maintenance of IT equipment, the customization of imported software applications, IT consultancy, and minor hardware assembling. The overall number of active enterprises is around 500, the bulk of which are software developers and IT services providers. In addition, it is estimated that there are several thousand Internet Points, mostly located in Lima. The total *turnover* generated by the ICT/ICTE industry is around US\$1.0 billion, half of which is generated by the hardware assembly industry. Peruvian ICT/ICTE firms operate mainly in the domestic market. In 2006, exports of software and IT services posted a meager US\$20 million. Traditional outsourcing services such as call centers and back office operations are still marginal, but it is expected that they will develop rapidly in the future. The level of *employment* in the ICT/ICTE sector is unknown, but given the generally small size of firms, it is unlikely to exceed 10,000.

Commercial banks dominate the Peruvian financial system. The banking industry is highly concentrated, with the three largest institutions accounting for about half of the total assets. The Peruvian banking system is extremely conservative. Lending policies are very strict regarding issues like risk and securitization. Few banks have established credit lines dedicated to SME, and virtually none have set up financing instruments that specialize in the ICT/ICTE sector. In addition to commercial banks, there is a wide network of rural banks, credit cooperatives and microfinance schemes. However, most of these facilities are focused on small crafts, farming, and retail—ICT/ICTE businesses rarely obtain this type of financing. By contrast, the private equity industry is largely undeveloped. At present, there are only

two venture capital firms active in Peru: (i) *SEAF Peru*—which is the local subsidiary of the international SEAF network based in Washington, and (ii) *Value Investment SAFI*. These two players together, have mobilized less than US\$50 million in capital, and they have thus far only financed twelve transactions, only one of which is an ICTE firm. The issue of SME access to financing has also been addressed by a series of programs and facilities set up by the government with the occasional support of international organizations. An example is the Credit Guarantee Fund “FOGAPI”, which is one of the PFE instruments offered by the state-owned financial institution COFIDE, and of FIRST Program and Invertir Program.

Evidence from the fieldwork demonstrates that the existence of a financing gap is a cause of concern for many entrepreneurs and stakeholders. The critical phase starts soon after the startup stage, and lasts until the enterprise is well-established and has a proven track record. The financing gap is more severe in the US\$100,000–350,000 range where the demand is greater. The main factors that cause this gap are as follows:

- **Financing Policies:** Banks have a distinctly conservative attitude. SME-lending schemes are few, and most are focused on sectors other than ICT/ICTE. The venture capital firms are marginal, and are mainly oriented toward ‘established’ operators.
- **Limited Diffusion of Alternatives:** There is a lack of equity financing instruments available. In particular, business angels are few and scarcely visible. Credit guarantee schemes mainly focus on traditional sectors, and operate on a small-scale.
- **Constraints on the Demand Side:** Informality is widespread among SMEs. Entrepreneurs are often scarcely familiar with the various financial instruments available, and seemingly unwilling to take risks vis-à-vis institutional lenders and investors.
- **Understanding of ICT:** Bank officers often have little knowledge of the various ICT/ICTE business models, and therefore are more inclined to reject loan requests in this sector.

- ***Business Environment Constraints:*** The ‘ecosystem’ for the nurturing and growth of the ICT/ICTE industry is scarcely developed. There is a lack of concrete public interventions in support of IT entrepreneurs, and of coordination among the various stakeholders, which include enterprises, universities, incubators, financial institutions, and public authorities.

This study identified a series of measures that could help bridge the financing gap. Some of these measures concern specific interventions aimed at facilitating access to equity and debt financing. Others are aimed at improving the interaction between the entrepreneurs and the institutional investors and lenders. In order to scale-up the opportunity of private equity investment in Peru, two initiatives appear particularly promising: (i) to support the establishment of SME financing schemes, with mixed participation of public and private investors; (ii) to facilitate the establishment of business angels’ networks. Regarding the first point, the provision of incentives to private sector investors would be particularly useful—those incentives could include down-side protections

arrangements and leveraged returns. At the same time, the importance of bank financing for SMEs should not be neglected. A scaling-up of the existing Credit Guarantee Schemes might prove particularly effective. The existing schemes cover only small loans (mostly below US\$5,000), and the majority of operations involve personal loans. Given the increasing popularity of this type of scheme, it could be worthwhile to design a line of activity dedicated to larger operations—one that would make credit guarantees more accessible to ICT/ICTE enterprises. Another obstacle to SME financing derives from the inability of entrepreneurs to prepare quality projects and present them to investors in an effective way. This could be improved by enhancing the capacity of incubators to provide assistance on these matters, or through the establishment of dedicated schemes. Finally, ways should be devised to remove obstacles generated by the information gap on ICT/ICTE. To this end, it could be worth supporting initiatives of various natures, aimed at improving and circulating the information in the ICT/ICTE field with the support of the various intermediate organizations.

I. INTRODUCTION

This report (the “Report”) has been prepared by *Economisti Associati* in collaboration with *Meta Group* (the “Consultant”) within the framework of the Study on “Scaling up Innovation and Entrepreneurship in Developing Countries: The Role of Private Sector Finance” (the “Assignment” or the “Study”). The overall objective of the Study is to analyze issues concerning the financing of small and medium enterprises (SME) in developing and emerging countries, with special reference to small businesses active in the information and communication technology (ICT) sector as well as in ICT-enabled (ICTE) activities.

This Report reviews recent developments in the ICT/ICTE sector in Peru, with special emphasis on current conditions for the financing of ICT/ICTE small enterprises. The Report is based on the results of a field mission in Peru (July 31 – August 4, 2006) as well as on the analysis of a variety of secondary sources.

The Report is structured as follows:

- Section II presents a country overview including the ICT/ICTE industry, the relevant policy and institutional framework, and the financial system;
- Section III analyzes the features related to the financing of small ICT/ICTE enterprises;
- Section IV offers some conclusions and recommendations.

The Study also includes a series of Annexes, providing supporting evidence for the elements presented in the main text. In particular:

- Annex A provides additional information on the ICT/ICTE industry;
- Annex B illustrates the institutional setting for the ICT/ICTE sector;
- Annex C presents the salient features of selected banks and private equity firms;
- Annex D provides the list of entities and persons met during fieldwork;
- Annex E presents the profiles of some SMEs financing organizations;
- Annex F presents the profiles of small ICT/ICTE enterprises interviewed during fieldwork.



II. THE COUNTRY BACKGROUND

II.1 THE ICT/ICTE SECTOR¹

Overview: The ICT/ICTE industry in Peru is still largely undeveloped. The sector is dominated by small and micro enterprises, most of which were established during the 2000s. The type of activities performed is usually very simple and includes: sale and maintenance of IT equipment, development of customized software applications, IT consultancy, and some minor hardware assembling. There are an estimated 300 enterprises overall. The total **turnover** generated by the ICT/ICTE industry is around US\$1.0 billion. Regarding hardware, nearly half of the PCs sold are locally assembled. This represents the only value-added activity in this field. Regarding software, the majority of the applications are imported and locally customized. The value of domestically-developed software is US\$70–80 million. IT services account for another US\$300 million. Call centers and BPO services represent only a marginal share of the ICT/ICTE industry, but there are good prospects for significant growth in the near future. The level of **employment** in the ICT/ICTE sector is unknown, subscribers but given the generally small size of firms, it is unlikely to exceed 10,000.

Telecom: The Peruvian Telecom sector was fully liberalized between 1994 and 1998. In 1995, the state-owned operators CPT and ENTEL merged, and created *Telefónica del Peru* (TdP), which was later acquired by *Telefónica SA* of Spain. With the opening up of the market in 1998, several new players, such as *Telmex*, *Telefónica Moviles*, and *Americatel*, joined the competition, but thus far TdP has maintained a dominant role both in the fixed-line and in the mobile segment. At present, the fixed-line segment includes eight operators. Together, they have installed 2.8 million lines, for a penetration rate of about 8.7%. TdP operates 92% of the existing lines, and in 2005, it posted a turnover of

US\$380 million. In the mobile segment, there are three competitors: (i) *Telefónica Moviles* (owned by *Telefónica SA*); (ii) *Claro* (a subsidiary of *América Móvil*); and (iii) NEXTEL. There are 8.7 million mobile telephony subscribers, for a penetration rate of 32%. *Telefónica Moviles* controls nearly 58% of the market, followed by *Claro* with about 38%. Overall, the telecom market generates an annual turnover of about US\$1.5 billion.

Internet Service Providers: The diffusion of the Internet in Peru started in 1991, due to the *Red Científica Peruana* – RCP (Peruvian Scientific Network). At that time, RCP included about 40 colleges, universities and scientific institutions, and its goal was to set up an e-mail service. After four years, there were 2,000 entities linked to this network, and the Internet was rapidly evolving into a commercial phenomenon. The market for the provision of Internet services was liberalized in 1999. Since that time, several ISPs have emerged both at national and local levels. The largest ISPs are those connected to telecom operators. TdP has about 90% of the total subscribers. There are several medium-sized ISPs, including: *Americatel* (1.8%); *Telefónica Multimedia* (1.3%); and *Terra* (1.0%). Over the past few years, the diffusion of the Internet has steadily grown at a pace of 20%–25% per year. However, private connections represent only a tiny share of the phenomenon². About 85% of the Internet users connect through the “Cabinas Públicas de Internet” (Internet Public Kiosks). The RCP actively promoted the diffusion of *cabinas*. Several thousand of them have been set up throughout the country, serving about 1.5 million users. The price for access to the Internet is relatively affordable—therefore, most of the clients are from low to middle income. The diffusion of *cabinas* did not benefit from any support from the state, NGOs, or

¹ Information provided in this section are drawn from various sources including: (i) CODESI, “Desarrollo de los Sectores de Producción y de Servicios”; (ii) APESOFT, “Industria Nacional de Software”; (iii) OSIPTEL, “Compendio de Estadísticas de los Mercados de Servicios Públicos de Telecomunicaciones en el Perú al 2006”; CREA Software Peru; Red Científica Peruana; and the websites of telecom operators, ISPs and IT firms.

² Only 6.3% of Peruvians have a phone connection, and less than 5% have a PC.

private firms, but has been a spontaneous phenomenon. As a result, Peru ranks relatively high among Latin American countries regarding the number of Internet users.

ICT/ICTE Activities: The hardware sector consists mainly of assemblers of IT equipment. Locally-assembled PC and peripherals account for about half of the total market. Activities are not very sophisticated, and players base their competitiveness on the low cost of the labor force. Conversely, manufacturing activities are very limited, and the hardware sector is based exclusively on imported parts. Reportedly, there is also a problem of the illegal import of spare parts. The hardware sector represents around half of the ICT/ICTE industry, with annual sales in the US\$0.4–0.5 billion range.

The software industry is relatively recent. Nearly three-quarters of the active players have been established for less than 10 years. The industry encompasses about 300–400 enterprises, which together generate an annual revenue of US\$150–200 million. The bulk of sales are in the domestic market, which represents 85% of the turnover—the value of exports amounted in 2006 to US\$20 million. The principal destinations of exports are the US—which accounts for nearly 20%—followed by various Latin America countries, in particular Chile, Bolivia and Mexico. A good share of the applications sold on the Peruvian market are branded. Sometimes the value added by local firms is linked to the customization of imported products. Software with locally registered IP, accounts for about 25% of the market. This sector employs around 6,000 staff. Firms are quite small, with an average of 20 employees. Large firms represent only 6% of the total. Most software houses are also active in the provision of a series of IT services. This segment includes mostly services of very basic nature, such as: maintenance and repair, IT consultancy, computer graphics, and e-content. IT services generate an annual revenue of about US\$300 million. Again, the bulk is represented by domestic market. Outsourcing services are not very developed yet in Peru. There are only a few small and medium-sized call centers, such as *Accent* and *Alfavia*, which target the Spanish-speaking market—and some ‘niche’ operators, which provide Internet services to the Hispanic community in the US. However, there is a wide consensus regarding the potential development of this field in Peru.

II.2 POLICY AND INSTITUTIONAL FRAMEWORK

Policy and Legislative Framework: The Peruvian telecom sector has been fully liberalized since the early 1990s. However, the Telecommunication Law needs to be updated due to a series of recent trends that require comprehensive regulation. These include the convergence of telecom, Internet, and media, and the fast-spreading new wireless technology (Wi-Max). Peru has recently issued a national ICT policy. The “National Strategic Plan of Science, Technology and Innovation for Competitiveness and Human Resources Development – PNCTI, 2006–2021” was announced last year, but various parts of it are still under elaboration. The pillars of the PNCTI include: (i) developing an adequate connectivity infrastructure; (ii) facilitating access to the information society to a larger number of citizens; (iii) improving e-government practices; (iv) developing technology parks for the ICT/ICTE industry; (v) supporting the adoption of ICT by SMEs; and (vi) promoting the development of e-commerce.

ICT falls under the umbrella of the *Ministry for Transportation and Communications*, with some responsibilities shared with the Ministry of Industry. The main public-sector bodies dealing with ICT matters are the *National Council of Science and Technology* (CONCYTEC) and the *Comisión Multisectorial para el Seguimiento y Evaluación del Plan de Desarrollo de la Sociedad de la Información* (CODESI). The latter is a committee involving several public-sector authorities, entrusted with the implementation of the “Digital Agenda”. In the private sector, the most important organizations are the *Peruvian Association of Software Developers* (APESOFT – Asociación Peruana de Productores de Software) and the *Consejo Privado para la Agenda Digital* (CPAD). The latter is a grouping of business associations acting as a counterpart to the government for the implementation of the Digital Agenda.

Support to ICT/ICTE Sector: Despite improvements in the legal and policy framework, concrete actions in support of ICT/ICTE entrepreneurs are still marginal. The material allocation from the state budget is quite low, and mainly related to basic infrastructure or promotional initiatives. The ICT/ICTE sector is clearly not among the top priorities

on the government agenda. Some of the most relevant initiatives undertaken in this field are as follows:

- **CREA Software Perú** – This is an initiative of the Committee for Promotion of Export (PROMPEX). It was built on a previous initiative implemented in 2000 by the private-sector business association APESOFT. The main objectives of CREA are: (i) promotion of the national software industry; (ii) improvement of its global competitiveness; and (iii) support to exports of Peruvian IT services. CREA gathers a group of top local software developers and IT services providers. It receives the support of the Ministry of External Trade, PROMPEX and APESOFT.
- The Peruvian infrastructure of connectivity is far from ideal, and many areas are still not connected. To this end, the government has set up the **Fondo de Inversión en Telecomunicaciones (FITEL)** – Telecommunication Development Fund. FITEL is aimed at providing universal access to all Peruvians. FITEL finances a series of local pilot projects that involve: (i) Internet access for District capitals of Peru; (ii) satellite Internet connection; and (iii) rural Internet and mobile connectivity through wireless technology.
- In 2000, Peru passed law no. 27267, which provided the guidelines for the creation, development and management of **Centers of Technological Innovation (CITEs)**. The model proposed is public-private partnerships. CITEs are intended to provide services to productive clusters in various fields: quality, capacity building, R&D, etc. Various CITEs have been established, but none yet in the ICT/ICTE sector.

IT Education: Peru has few centers of excellence regarding IT high-level education. However, over the past few years, the situation has significantly improved with the establishment in major universities and technical schools of training courses related to IT, electronics, telecommunication and software engineering. A non-exhaustive list of institutions that offer courses in these areas includes: (i) the National University of Engineering; (ii) the Pontifical Catholic University of Peru; (iii) Ricardo Palma University; and (iv) the University of Lima. There are also the following technical schools: (i) CIBERTEC; (ii) *the National Institute of Research*

and Training in Telecommunications (INICTEL); and (iii) TECSUP.

E-Government: In Peru, e-government is still in its infancy. The Portal of the Peruvian State has been recently launched, but thus far it mostly serves informative purposes. On-line services will be implemented in the next future. In June 2003, the Peruvian government approved the establishment of the *National Office for E-Government* (ONGEI). It is entrusted with the implementation and supervision of the national policy of e-government and IT, within the framework of the Plan for the Development of the Information Society in Peru. Specific entities ONGEI has already created specific entities, such as: (i) the *Multisectoral Commission for the Information System Integration and National Technological Platforms* (COISIP); and (ii) the *Coordinator Committee of the Spatial Data Infrastructure of Peru* (IDEP). These bodies are actively committed to the development of two main e-government projects: (i) the Virtual Payments Project—for tax and services payments; and (ii) the Digital Firms platform and digital certifications of the Peruvian State Project.

Cooperation with Donors: The donor community supports the development of Peruvian ICT/ICTE through various programs and initiatives. These include the following:

- The **PACIS** Program (“Programa de Apoyo a la Competitividad de la Industria del Software”) is an initiative co-sponsored by IADB/MIF for the support of the domestic software industry. The program was implemented by the Chamber of Commerce of Lima and by the sector business association APESOFT. The purpose of the project is to help software SMEs gain access to quality processes and systems, and to improve their skills in management, marketing, and programming languages. The program was started in 2004, and has received a financing from the MIF of more than US\$0.5 million.
- The **infoDev Program** of the World Bank has supported the Centro de Innovación y Desarrollo de la Pontificia Universidad Católica (CIDE-PUCP), within the framework of its worldwide business incubator initiative. The CIDE-PUCP has received a grant of US\$350,000 to set up a program of incubation offering training, business planning services, and

other technical assistance services for would-be IT entrepreneurs. The incubator currently has 30 off-site tenants and one on-site tenant, in an area of 30 square meters. Thus far, 15 clients have graduated from CIDE-PUCP.

- The European Commission, through the program European program for alliances in the information society (@LIS), has supported pilot projects in Peru and Brazil in the field of e-government. This initiative, denominated eGOIA, was implemented in Peru by CONCYTEC, as the national counterpart.

II.3 THE FINANCIAL SECTOR

The Banking Sector: In the early 1990s, Peru implemented an economic model based on: (i) a conservative monetary policy; (ii) trade liberalization; (iii) openness to capital market flows, free exchange rates and interest rates; and (iv) re-entering the international community through external debt restructuring. In fact, Peru has strengthened macroeconomic aggregates, but micro-level activity still suffers from inefficiencies. The impact of the international financial crisis has greatly affected Peruvian markets in terms of regulations and competitiveness. The Adjustment Program in Peru has had an impact in the financial sector, by means of the privatization of public banks and the elimination of some development agencies (*Banco Agrario*, *Banco Industrial*, *Banco Minero*, *Banco de la Vivienda*, and *Banco Hipotecario*) and other state banks (*Banco Popular* and *Banco Surmedio y Callao-Surmebanc*). In addition, several financial institutions were privatized, including: (i) *Caja de Ahorros de Lima*; (ii) the *Banco Continental* (now BBVA); and (iii) *Banco Internacional* (now *Interbank*), while increasing its stake in the *Banco de Comercio*. Since this restructuring, the Peruvian financial system has grown steadily, in particular over the past three years. It now has nearly US\$30 billion in total assets. The recent economic growth in Peru did not translate into an equal increase in the financial intermediation. While GDP has shown positive rates for the past five years, allocations by the financial system have been decreasing. Today, credit to the private sector represents about 20% of the GDP. This is mainly due to a lack of credit opportunities, rather than to liquidity problems. In fact, banks are currently extremely conservative regarding

their credit policies. The *Superintendencia of Banks and Insurance* (SBS) regulates the commercial bank industry. The SBS has been applying restrictive policies since 1998, due to the Asian Tigers Crisis. For example, current SBS regulations require that all deposit-taking institutions have periodic compulsory assessments to be carried out by at least two different independent credit rating agencies accredited by the SBS. The SBS has also set liquidity requirements on deposits and other short-term liabilities, at relatively high levels.

Today, Peru's banking system is composed of 15 commercial banks, 26 municipal and rural savings banks, and four government-owned entities. The latter include: (i) the Central Bank (*Banco Central de Reserva del Peru*, or *BCRP*); (ii) the government's financial agent (*Banco de la Nacion*); and (iii) two development banks (COFIDE and the Agrarian Bank). Concentration of the banking system is very high—three main institutions hold more than half of all the deposits and loans.

Venture Capital: In Peru, investment funds started in 1997 with the establishment of two real estate funds. This industry started to boom in 2002, and several investment funds of various kinds have emerged, including leasing, infrastructure funds, and factoring funds. In particular, large asset management companies, such as *AC Capitales* and *Compass*, have set up several schemes of this kind over the past few years. The investment funds industry reached US\$450 million in 2006, mainly fuelled by the relatively rich Pension Funds, which amount to US\$15 billion. Private equity funds, however, remain largely undeveloped. There are only two Venture Capital firm active in Peru: (i) *SEAF Peru*—which is the local subsidiary of the international SEAF network based in Washington, and (ii) *Value Investment*—which is the manager of the “Fondo Stella” (now closed). Together, the capital mobilized by these two players is below US\$50 million—thus far, they have financed about a dozen transactions. Another opportunity is offered by the Compass’ “Fondo de Inversion para Pymes” (SME Investment Fund), which is a US\$50 million facility that offers factoring services.

In 2001, ProCapitales, with the support of international IFIs, launched the “Invertir” Project. This project is aimed at enhancing private equity financing for SMEs (see Box 1 below). It has

achieved some important objectives. It is likely to launch some concrete initiatives in the field of VC in the near future.

The salient features of the Peruvian private equity industry can be summarized as follows:

- **Origin of Funds:** Funds typically come from overseas. IFIs are an especially important source of funds. For example, they are the main funders of SEAF Peru. Peruvian pensions also play an important role, which could increase in the future.
- **Investment Policy:** The “Fondo Transandino del Peru” (FTP), managed by SEAF, is specifically focused on SMEs. “Fondo Stella” (FS) focuses on relatively larger firms. In both cases, the preference goes to relatively established enterprises that have reached a certain stage of development. FTP’s deals average US\$1.5 million, and FS’s deals average US\$3.0–4.0 million. Most SMEs are outside of the scope of these VCs, and no alternatives exist for small-scale equity financing. Both players have a generalist approach, with a marked preference for export-oriented business. The ICT/ICTE industry is widely neglected, although FS does have an e-business service provider in its portfolio.
- **Operating Modalities:** VC funds operate through a mix of equity and quasi-equity financing. The Compass’ SME Investment Fund is a factoring scheme. The policy for disinvestments is based on strategic sales, because the underdeveloped stock market does not provide enough room for exit through IPOs.
- **Performances:** SEAF Peru has screened more than 200 projects. It has concluded four deals, and has eight more in the pipeline. The *Fondo Stella* has closed with seven companies in its portfolio. Apparently, no liquidity events have yet occurred.

Other Government and Donors Schemes: In addition to the above, there are some initiatives promoted by the Government and by international organization to support access to credit to SMEs. Besides the “Invertir” Program supported by IADB/MIF (see Box 2.1 above), other projects currently on-going include: (i) the PFE scheme implemented by the Government’s agency COFIDE; and (ii) the joint CONASEV and FIRST Initiative project on

BOX 1. *ProCapitales and the “Invertir” Project*

ProCapitales is an association whose mission is to promote the growth of the capital market in Peru. It was established in 2001. It is active in three main fields: (i) the improvement of the regulatory framework for the capital market; (ii) the diffusion of good practices of corporate governance; and (iii) the promotion of investment funds. *ProCapitales* is the manager of *Invertir*, which is a project supported by the IADB/MIF, the *Corporacion Andina de Fomento* (CAF), and the *Peruvian Association of Pension Funds* (AFP). The *Invertir* Project aims at promoting the overall investment environment, with a special focus on the access of SMEs to risk capital sources. To this end, *Invertir* addresses: (i) the policy-makers—to obtain a partial deregulation of the system, (ii) the SME—to improve their capacity, and to help them to access the capital market; (iii) the investors—to promote meetings and fora, and to stimulate the establishment of new private equity funds. In September 2006, *Invertir* launched the first call for proposals for venture capital funds, within the framework of the “Fund Incubator” initiative. The objective is to identify potential fund managers and to advise and train them for fundraising activity among potential investors (both national and foreign). This initiative is modeled on the Brazilian *Inovar* Project, which has proved very successful and has reached the seventh round of investment. The outcome of the call has been nine projects of private equity funds presented by several local capital management companies³.

capital market. In addition to that, IADB/MIF is also active in the provision of refinancing to various Peruvian banks, and in several other capacity building and training programs for local SMEs. Also the *Corporacion Andina the Fomento* (CAF)⁴ supports actively Peruvian banks for the financing of investment projects, working capital and trade lines, mainly for the MSME sector. In 2006, the amount disbursed for such activities summed up to US\$175 million.

- **Corporacion Financera de Desarrollo (COFIDE):** Established in 1992, COFIDE is an independent financial institution controlled by the “National Fund for the Financing of Entrepreneurial Activity”—FONAFE (Ministry of Economy and Finance)—with a small stake held by the *Corporacion Andina the Fomento* (CAF). COFIDE manages a credit line specific

³ For more details see www.invertir.org.pe

⁴ The *Corporacion Andina de Fomento* (Andean Promoting Corporation) is a multilateral financial institution that supports the sustainable development of its shareholder countries and regional integration. It serves the public and private sectors supplying multiple financial products and services to a broad portfolio of clients, formed by the governments of the shareholders States, financial institutions and public and private companies. For more information see www.caf.com

for SME: the “Productos Financieros Estructurados” (PFE). The PFE loans are offered at very competitive interest rates—from 12% to 16% per year). In addition, the approach of COFIDE is different from common commercial banks—less attention is paid to borrowers’ track-records, and more to the real market opportunities. In 2006, the PFE mobilized US\$25–30 million, but most of the funds went to agribusiness and other traditional sectors.

- **Credit Guarantee Schemes:** The first initiative of this kind was the *Fundación Fondo de Garantía para Préstamos a la Pequeña Industria* (FOGAPI). FOGAPI was established in 1979 as a joint initiative of GTZ and a series of Peruvian business associations: APEMIPE, SNI- COPEI, and SENATI. It also had support from COFIDE and of the Banco Industrial del Perú (BIP). FOGAPI is a not-for-profit foundation and manages a US\$25 million public fund, which provides credit guarantees for loans focusing on SMEs. After several years of low-level activities, FOGAPI has recently significantly increased its volume of operations. Between January and May 2007, around 45,000 guarantees were issued, for an overall loan value of US\$132 million. A second initiative is the *Programa de Seguro de Crédito para la Pequeña Empresa* (FONAPE). The public funding for FONAPE was about US\$20 million—it was allocated through a fund named *Fondo de Respaldo para la Pequeña Empresa* (FONREPE). However, FONAPE’s operations encountered many difficulties, and the scheme never really took off. Eventually, FONAPE discontinued activities.
- **Comisión Nacional de Empresas y Valores (CONASEV) – FIRST Initiative:** Peru’s securities regulator CONASEV, asked FIRST

Initiative⁵ assistance to develop a project in support of SMEs. It was aimed at improving the access of SMEs to the capital market, and permitting them to tap into the institutional investors’ segment using liquidity and credit-enhancing mechanisms. The FIRST Initiative disbursed US\$630,000 for a program articulated in two main phases: “Phase I is related to the regulatory improvements needed, the public securities market, legal and tax issues and barriers created by regulations governing the financial, insurance and private pension systems. Phase 2 involves the enrollment of a representative sample of *Cajas Municipal de Ahorro y Crédito* to be candidates for the pilot securitization transaction and to benefit from the capacity building, and upon the passage of legislation and approval of regulations. The second phase will seek to undertake the required initiatives to strengthen the regulatory organizations that play a role in the Peruvian financial industry to improve the institutional framework for issuing new securities. In addition, Phase 2 will also address the existing operative hurdles in local markets, that slow down or constrain the entrance of new issuers⁶”.

5 The Financial Sector Reform and Strengthening (FIRST) Initiative is a multi-donor grant facility providing technical assistance (TA) to promote financial sector strengthening. Launched in 2002, FIRST has been recently extended to 2012 with a total funding of US\$100 million. The facility is managed by the World Bank also on behalf of: the Canadian International Development Agency (CIDA), the Department for International Development for the United Kingdom (DFID), the International Monetary Fund (IMF), the Ministry of Foreign Affairs of The Netherlands, the State Secretariat for Economic Affairs of Switzerland (SECO), and the Swedish International Development Cooperation Agency (SIDA).
6 For more information see the official FIRST Initiative website: www.firstinitiative.org

III. SPECIFIC ISSUES IN THE FINANCING OF ICT/ICTE SMALL BUSINESSES

III.1 SME FINANCING NEEDS – THE DEMAND SIDE

The financing needs voiced by Peruvian ICT/ICTE enterprises reflect the weaknesses of a fledging industry, which includes mostly young micro-enterprises and few established operators—only a few of which have access to foreign markets. The amounts sought by ICT/ICTE companies may vary significantly accordingly to the size and the stage of maturity of the business. It ranges from US\$20,000–30,000 at the seed stage, up to above US\$1.0 million for well-established companies with regional or international links. The financing needs also depend on the nature of the business and on the market served or prospected (national vs. international). For example, hardware assembly firms are more hungry for working capital than software houses. The rationale for these needs also varies according to the stage of development and the business model adopted. At the early stage, R&D costs prevail. Later, the organization of the business, including the establishment of an adequate productive capacity and a commercial network, absorb most of the resources. Once the business has reached a certain point of development, further investments are normally needed to explore new business lines, to deepen and enlarge the operations, and to expand into foreign markets. Table 1 summarizes the salient features of financing needs voiced by ICT/ICTE firms across the different stages of development⁷.

III.2 ISSUES IN ACCESSING FINANCING – THE SUPPLY SIDE

Issues in Accessing Bank Financing: The Peruvian financial system encompasses a relatively large number of institutions. These include: commercial banks, municipal and rural *cajas*, and development banks. However, these entities mainly offer traditional credit lines that usually are not tailored to the needs of ICT/ICTE SMEs⁸. There are no specific programs for technology-based firms from any of the Peruvian commercial or development banks—reflecting the widespread lack of interest and/or awareness for this industry. ICT/ICTE enterprises face serious obstacles in accessing common banks' lending schemes. The Peruvian banking system is extremely conservative—lending policies are very strict regarding issues like risk and securitization. Moreover, most Peruvian technology-firms are based on immaterial assets, and are therefore seldom able to meet the requirements of banks. At the early stage, when financing needs are still limited, entrepreneurs may obtain a loan on a personal basis and provide personal property as collateral. Later on, when needs reach a certain scale, this is no longer possible and the lack of collateral becomes a serious problem. Credit Guarantees schemes have existed in Peru since the early 1980s—they were established by the government with the support of the donor community. However, they have provided little relief to ICT/ICTE SMEs, because they target in particular personal loans or small amounts—below US\$5,000 on average. The same applies to municipal and rural *cajas*, which traditionally focus on less innovative businesses, and work with low-income clients—generally lending them very small amounts. Another constraint is the high cost of financing,

⁷ More details on the firms mentioned in this section are provided in Annex F.

⁸ There is one bank specialized in services for SME: *MiBanco*. Its products include a vast range of instruments: working capital, leasing, mortgage, etc. However, the bank is quite small, and the interest rates proposed are not very competitive.

TABLE 1. *Summary Presentation of ICT/ICTE Financing Needs*

Life cycle ⁵	Amount Sought	Comments	Examples from the Fieldwork
Early-Stage	US\$20,000 to 80,000	The initial stage goes from the conception of the business idea to the moment when commercialization begins. At this stage, financing needs are very limited, because most startups focus on relatively simple business models that require little physical assets in their fixed-cost structure—web-design, e-contents, etc. The bulk of the investment at this stage relates to typical ‘seed’ activities (R&D and initial development of the business concept), and to purchase of equipment and licenses, product development, and initial marketing efforts. Given the typical ‘informal’ nature of Peruvian technology startups, the early steps are usually financed through private or FFF sources. This also explains why in the case of Peruvian SMEs, the early stage may last for many years.	<ul style="list-style-type: none"> ■ Ingenieria Integral – software development and IT services ■ Doctor Site – web solutions and design
Development	US\$80,000 to 250,000	This phase corresponds to the proper “formalization” of the business and the actual commercialization of the products/services developed in the initial stage. At this stage, companies need increasing amounts of financing to: (i) support market development; (ii) create an adequate “production capacity”; (iii) hire and train new staff; (iv) provide business and advisory services (on IP matters, certifications etc.); and (v) increase the amount of working capital. Again, the level of needs varies according to the nature of the business and the market orientation. For enterprises aiming at establishing partnership at the regional level, an investment of US\$100,000–150,000 is typical.	<ul style="list-style-type: none"> ■ IT World – e-learning, e-contents ■ Global System and Consulting – software development and IT services ■ System Developer – Web solutions, multimedia applications
First Expansion	US\$250,000 to 1.0 million	The first expansion phase is often associated with the launch of a new, upgraded version of the original product. In other cases, the expansion phase involves some degree of diversification, with the introduction of new products/services that build upon the technical expertise acquired, and/or on the connections established with certain clients. At this stage, Peruvian ICT/ICTE firms normally do not rely on the domestic market alone—they focus on strengthening their commercial relations with external partners. In addition to constant investment in R&D for the upgrade of the products, and for the expansion of the commercial network, entrepreneurs should also increase the working capital to protect from fluctuations in the cash flow. Financing needs at this stage may reach relatively sizeable levels.	<ul style="list-style-type: none"> ■ LOLIMSA – Software development, Health-sector solutions ■ INCA Consultores – IT Consulting
Second Expansion	More than US\$1.0 million	This stage of development is associated with a major change in the scale of operations—often with the scaling-up of international operations. In the latter case, financing requirements relate to the establishment of commercial subsidiaries as well as to a host of other internationalization-related expenses. In Peru, there are very few examples of firms at this stage.	none

which discourages entrepreneurs from the beginning. The procedures for the appraisal present certain obstacles, in particular regarding: (i) timing—it is reported that the process may take several weeks; and (ii) evaluation approach—the creditworthiness is assessed on a purely administrative basis, with no consideration whatsoever given to the viability of the project proposed.

Unsurprisingly, the situation improves slightly when more established firms are involved—in particular

exporters and firms having a long and positive track-record. However, according to APESOFT, given the current banks’ approach, only one tenth of ICT/ICTE firms in Peru could be eligible borrowers.

Issues in Accessing Equity Financing: The Peruvian financing system still relies heavily on the banking industry—private equity is relegated to a marginal role. Nevertheless, due to favorable macroeconomic developments over the past few years, some improvements have resulted due to the

creation of various types of funds, including pension and mutual funds. The legal framework has been partially reformed, in order to be more conducive to this type of operation. However, when venture capital funds *strictu sensu* are concerned, the situation is still far from ideal, with just a handful of active players reported. Along with the few institutional players, there are also some privately managed ‘informal’ schemes. The latter do not operate a fund with a fixed corpus, but rather, raise money for investment on a case-to-case basis. Overall, the contribution of this industry to the financing of ICT/ICTE firms remains extremely limited due to the following factors:

- **Investment Policy:** VCs generally do not consider seed and early-stage financing, due to the long time needed before the results are visible. VCs, especially those with a risk-averse attitude, prefer to work with already established firms. In addition, startups need comparatively more assistance on a number of issues, such as strategic orientation, management, and commercial networking. This is a job that in other more advanced contexts, business angels normally perform. Moreover, the Peruvian ICT/ICTE is not seen as a sector that could offer at present significant growth potential;
- **Size of Operation:** In accordance with investment policy, the overall size of the deal does matter. In order to obtain the expected results, deals below a certain threshold are simply not considered. The costs associated with the operation, which include screening, appraisal, due diligence, disbursement, and monitoring, are not worth the expected gain. Even funds oriented to SMEs, such as SEAF, usually involve transactions in excess of US\$500,000, which is well above the real needs of most ICT/ICTE SMEs.
- **Cultural Aspects:** Peruvian promoters and investors have a distinctly risk-averse attitude. Entrepreneurs are often unwilling to relinquish part of the company’s ownership to external investors—they prefer to stay small or struggle to survive with bootstrapping. Most investors are unlikely to venture into risky operations with volatile ‘dot-com’ companies.
- **Information Gap:** There is also a problem of mismatch between the demand and the supply, due to a lack of information infrastructure. Entrepreneurs are often unaware of the opportu-

nities offered by VC schemes, or are unfamiliar with how they function. At the same time, VCs may have difficulties in identifying deserving projects to finance, due to the lack of intermediary institutions. Since 2006, an annual Venture Capital Forum has been organized in Peru, with the participation of investors, promoters and other stakeholders. However, thus far the agenda of the forum has mostly been dedicated to raising awareness on this type of financing rather than supporting concrete transactions;

- **Systemic Constraints:** The development of VC operations is also hindered by a series of issues related to the overall economic and legal framework, such as the lack of clear exit mechanisms for investors—IPO is hardly conceivable.

As a result, private equity does not represent a viable option for small ICT/ICTE firms. This was confirmed by the direct interviews with IT entrepreneurs: none of the interviewees had ever had any contact with VCs or business angels. The *Invertir* program can provide some improvements in the near future, but a good deal of work is needed on both the demand and the supply side to reach an acceptable level of cooperation.

III.3 THE FINANCING GAP – NATURE AND SEVERITY

Overview: The available evidence does suggest the existence of severe obstacles in access to financing for Peruvian ICT/ICTEs. The critical phase starts soon after the seed stage, when entrepreneurs try to transform an idea into a concrete and viable business—it lasts until the enterprise is well-established and has a proven track record. There is a gap for financing from as little as US\$50,000 to more than US\$1.0 million. The financing gap is more severe in the US\$100,000–350,000 range, where the demand is greater. The problem is not that there is an absolute scarcity of funds—in fact, the Peruvian financial system is relatively liquid—the problem is in the matching of supply and demand. As discussed in the previous section, the main issues related to the supply of financing are the banks’ traditional approach and the lack of alternatives from the private equity industry. Other causes of the gap are the following constraints from the enterprise side:

- Promoters are often not prepared to deal with bankers and investors, and to present their business in an effective way. The quality of the projects presented is frequently inadequate. In many cases, the prevailing conditions for financing are so discouraging that many promoters do not even try to obtain it⁹.
- Small enterprises display a high degree of informality—especially outside of Lima—and are often reluctant to change their business behaviors to improve their relations with external potential investors. In particular, there seems to be a widespread negative attitude toward banks—many promoters with financial difficulties have claimed to be uninterested in bank lending. Promoters are more open to business angels and VCs. However, it is not clear whether small entrepreneurs really know what private equity financing entails, or whether they base their judgment on a prejudice.
- Overall, the Peruvian ICT/ICTE industry is small and not very diversified. Therefore, investors' doubts about its real potential and profitability in the short-run appear fully legitimated. The risk culture is weak in Peru among entrepreneurs—few of them appear able to 'think-big' and to elaborate really innovative projects.

Little relief is provided by government or donor schemes. There are small incentives provided during the seed stage, through 'business plan contests' or

R&D support provided by universities. However, there is no mechanism or facility to help ICT/ICTE SMEs in the subsequent phases of development. For this reason, many entrepreneurs continue to rely on informal sources of financing for a long period, thereby jeopardizing the prospects for significant growth.

The Financing Gap & Stage of Development:

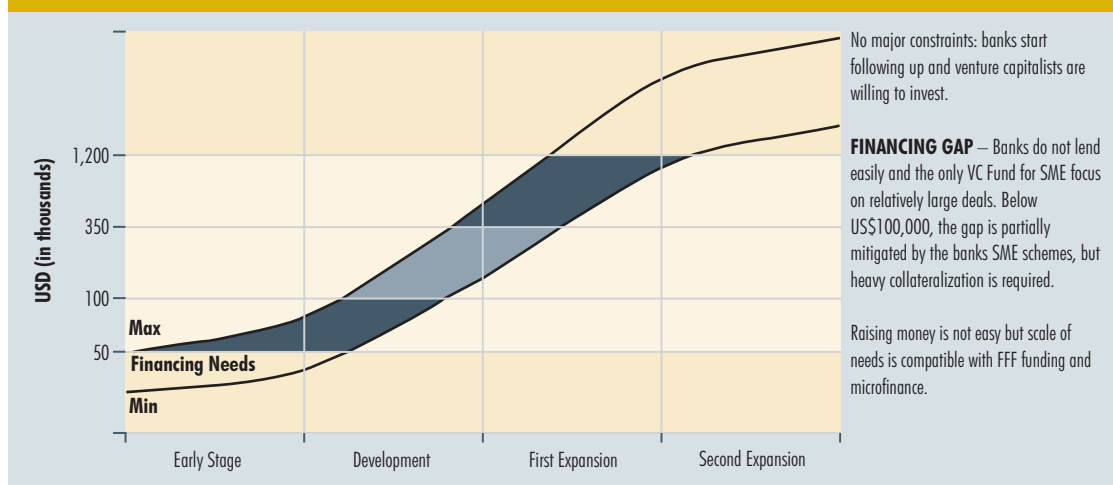
The extent and severity of the financing gap varies according to the maturity of enterprises. Figure 1 illustrates the salient features of this gap in the different stages of development¹⁰.

As indicated in Figure 1, financing constraints faced by IT companies appear comparatively more serious in the development and first expansion phases, while the situation is more nuanced in other phases. In particular:

Early Stage: At the seed and start-up stages, the sources of financing are mainly informal: private savings, FFF and money lenders. Some activities such as training and R&D may receive small

⁹ For example, the director of Caja Sur Arequipa reported to have never received a request for a loan from an ICT/ICTE entrepreneur. The same happens with many other financing institutions.
¹⁰ These considerations apply in particular to the software development and IT services providers. Companies active in the field of hardware manufacturing and assembling, as well as large call centers and big distribution chains, obviously display different characteristics.

Figure 1. Nature and Severity of Financing Gap



support from the government (through CONCYTEC—the *National Council for Science Technology and Innovation*) or University business plan competitions, such as those organized by the CIDE-PUCP with the co-sponsor of Nokia, Motorola and Lucent Technologies. Business incubators provide additional support in the form of business services and technical assistance, but no seed financing is directly available. This lack of financing is one of the causes of the long duration of the early stage, which lasts at least three years. At the same time, there are no specific benefits of a fiscal nature for technology startups. Therefore, operators find it more convenient to remain small and informal rather than to struggle for growth. Financing options at this stage also include microfinance and COFIDE's SME schemes—although in both cases ICT/ICTE is not seen as a priority sector.

The **Development** and **First Expansion** Stages are where the bulk of problems in accessing financing are found. It is estimated that most of the financing demand expressed by ICT/ICTE SMEs is concentrated in these stages, especially for amounts in the US\$50,000–200,000 range. Because of the lack of seed funds and the scarce diffusion of business angels, the most viable option at this stage remains banks. However, few banks have SME-dedicated schemes, and nonetheless, heavy securitization is invariably required. An additional obstacle is the

high cost of financing, which causes many entrepreneurs to prefer financing activities through bootstrapping. Reportedly, many players maintain a distinctly informal character even at a more mature stage, thus justifying the cautious attitude of institutional lenders and investors. However, it is undeniable that there is a lack of financing options at this stage for deserving SMEs. Above US\$300,000–350,000, established SMEs may try to tap from the SEAF Peru VCF. However, the ICT/ICTE sector is not a priority for this scheme, and furthermore, its capacity will soon be finished. However, several new initiatives of this kind are in the pipelines. In particular, the fund-raising has begun for VC fund projects issued from the “Invertir” project—there are plans to launch new facilities later this year or in 2008. In addition, a second round of SEAF Peru is currently under discussion.

Second Expansion: At this stage, firms have reached a maturity and a stability that make access to financing much easier. In most cases, these firms have successfully built a commercial network and established ties in the region or overseas. Thus far, only a handful of Peruvian ICT/ICTE players have reached this stage. At this level, firms normally meet the requirements of banks, and borrowing becomes a viable option. In addition, private equity schemes such as *Fondo Stella* or FTP might be interested, given the larger size of potential deals.



IV. CONCLUSIONS AND RECOMMENDATIONS

IV.1 INTRODUCTION

It is difficult for Peruvian ICT/ICTE SMEs to access institutional financing, especially when they are in the intermediate phases between seed and maturity. As discussed in the previous sections, there are two main reasons for this financing gap: (i) lack of or restriction to the access to the existing source of financing; (ii) the scarcity of attractive projects that would attract more private investors. These obstacles are exacerbated by the absence of effective mechanisms to support this industry from either the public sector or the donor community. In addition, only recently have some initiatives—such as the ProCapitales Forum—began to be organized that involve stakeholders, such as universities, entrepreneurs, investors, business associations and incubators. In general, the level of coordination among the various players remains quite marginal. In absolute terms, the Peruvian ICT/ICTE industry is relatively small. This may explain the scarce interest demonstrated so far by policy-makers and the investors' community. On the other hand, it is undeniable that Peru holds some important competitive advantages compared with regional and international competitors—regarding the cost of labor, the language factor, and the internal market size—that bode well for the future. The established ICT/ICTE players are oriented toward export within the region—this makes the need for adequate financial support more acute. Over the past few years, some capacity-building and technical assistance projects have been launched to enhance business incubation activities, and to support the creation of a conducive ecosystem for the ICT/ICTE industry. Some of these programs have been modeled on successful initiatives implemented in neighboring countries. An example is the “Invertir” program, which is

based on the Brazilian “Inovar” facility. However, it is important to complement these interventions with concrete measures aimed at improving access to ‘smart money’ and providing other financial and fiscal facilitations to ICT/ICTE SMEs.

This study identified a series of measures that can help bridge the financing gap. These measures, which cover both the supply and the demand side, are briefly illustrated in this section. Some of them concern specific interventions aimed at facilitating access to equity and debt financing. Others are aimed at improving the interaction between the entrepreneurs and the institutional investors and lenders. Given the nature of the *infoDev* Program, the recommendations put forward in the present section concentrate on ‘soft’ and preliminary activities useful for subsequent ‘investment’ operations that could later be funded through donors and IFIs.

IV.2 MEASURES AIMED AT FACILITATING ACCESS TO EQUITY FINANCING

It is widely acknowledged that access to equity financing represents an essential feature for the development of small entrepreneurship in the ICT/ICTE sector. All developed ICT/ICTE industries worldwide exist within an ecosystem where there are strong links among university and research centers, entrepreneurs, and venture capital. In this regard, Peru is dramatically lagging behind, although the links between academia and business have somewhat strengthened over the past few years, due to the work of business incubators. The weakest player is probably the VCs. In order to scale-up the opportunity of private equity investment in Peru, two initiatives appear particularly fitting: (i) supporting the establishment of SME financing schemes, with mixed participation of public and private investors; (ii) facilitating the establishment of business angels' networks. A brief description of these measures is provided below.

Support to the Establishment of SME Financing Facility:

Under normal conditions, even the most visionary and reckless VCs will not consider investments below a certain threshold, which generally ranges from US\$250,000 to 500,000. The risks associated with early-stage operations are quite high, and unless outstanding performances are envisaged, the costs for the management of these small operations exceed the likely gains. To overcome these problems, other countries have successfully introduced various types of public-private partnerships. Co-investment schemes have the advantage of reducing the risk for private investors—in some cases the public partner takes on the transaction costs. Other forms of incentives include guarantees for the private sector partner against the possible losses, and the attribution of leveraged ‘upside’. Ideally, such facilities should provide SMEs with ‘smart money’, i.e. technical assistance for the proper establishment of the business, the recruitment of managerial staff, and the building up of the commercial network.

Promotion of Business Angel Networks: In Peru, there are few investors that operate in their individual capacity or through small informal groups. This is partly due to the constraints of the overall business environment, and also to a lack of pioneer experiences in this field. A useful initiative could involve promoting the establishment of an organized business angels group, modeled on those in countries such as India, the Philippines, and Brazil. The existence of a structured group of angels would facilitate bridging the information gap between investors and promoters, and increase the matching events. An organized network could also provide additional services to its members, such as pre-screening services, assistance with organization and presentation, and assistance navigating through the investment period. At the same time, the presence of a stable group would give these kind of operations more visibility, which could be beneficial for the adjustment of existing regulatory constraints and bottlenecks.

IV.3 MEASURES AIMED AT FACILITATING ACCESS TO BANK FINANCING

Over the past several years, the Peruvian financing system has demonstrated a talent in the creation of

multiple and diversified microfinance schemes. However, most of these financial products are tailored toward crafts, farming, and small retail, and there is virtually nothing for ICTs. Few banks have developed products to finance working capital or investments for SMEs, despite the fact that the banking industry is relatively liquid and the SME sector is a major player in the Peruvian economy. Therefore, it is necessary to devise ways to channel part of this liquidity to small technology businesses through mechanisms that reduce the risks associated with these types of operations. This can be achieved through a substantial support of the credit guarantee schemes.

Supporting the Development of Credit Guarantee Schemes:

The traditional Credit Guarantee Schemes set up in Peru are: (i) the *Fondo de Garantía* (FOGAPI); and (ii) the *Programa de Seguro de Crédito para la Pequeña Empresa* (FONAPE). Their performances have been ambivalent. FONAPE did not achieve the expected result—mainly due to systemic constraints. Therefore, it was closed. FOGAPI’s operations have only recently gained momentum. During the first five months of 2007, FOGAPI issued around 45,000 guarantees to secure loans, for a total amount in excess of US\$132 million. However, the average size of the loans is quite small, i.e. below US\$5,000, and the majority of operations regard personal loans. It would be worth exploring the possibility of designing a line of activity dedicated to larger operations, i.e. up to US\$150,000–200,000, and to assess the feasibility of enhancing the deals in the ICT/ICTE sector. The size of the industry does not justify a dedicated guarantee scheme for IT business, but with the help of business associations it could be possible to design a CG product accessible to technology entrepreneurs.

IV.4 IMPROVING THE INTERACTIONS BETWEEN SUPPLY AND DEMAND

Interventions in the business environment have a less direct impact on the financing gap than interventions in the financing environment. Nevertheless, they may yield important results, especially in helping to create a conducive ecosystem where ICT/ICTE entrepreneurship can be nurtured.

Specific measures that can be envisaged would be aimed at: (i) improving the understanding of ICT/ICTEs; and (ii) enhancing entrepreneurs' capability to deal with financing institutions.

Improving the Understanding of the ICT Sector:

In many cases, the understanding of the fundamentals of ICT/ICTE represents a major issue affecting investment decisions. In order to assess the creditworthiness of a project, a basic knowledge of the business model proposed is necessary. In Peru, the problem is magnified by the unfamiliarity of bankers and investors with this sector. Therefore, it could be useful to implement actions aimed at disseminating information on the economic and financial aspects, and the peculiarities of these types of business—through seminars, trainings, and publications. A crucial aspect would be the involvement of business associations such as APESOFT, and other intermediary organizations as well as academics government agencies, business incubators, etc.

Enhancing Capabilities to Deal with Financial Institutions: As discussed previously, banks and

financing institutions are not solely to blame for the financing gap. Informal practices and unreliable financial statements are widespread problems among Peruvian SMEs, including technology enterprises. This dramatically reduces the chances of obtaining a bank loan or being selected by an investor. In Peru, the productive sector is not adequately supported by the necessary business services. Therefore, it is not easy for small firms to reach an acceptable quality level. This is reflected in their financing endeavors. There is a limited knowledge of the various financing instruments, and the quality of the projects proposed is less than ideal. For the enterprises undergoing incubation programs, these problems are partially mitigated by the support that the incubator provides in the form of training or technical assistance. Useful measures in this area would include: (i) programs that enhance the role and capacity of incubators to improve the entrepreneurs' ability to present their business ideas and meet the quality standards required; (ii) direct provision of technical assistance to ICT/ICTE SMEs through dedicated schemes.





ANNEXES



ANNEX A – THE ICT/ICTE SECTOR

TABLE 2. *Basic Data on the ICT Sector*

	2000	Peru 2004	Latin America & Caribbean 2004
Economic and social context			
Population, total (millions)	26	28	541
Urban population (% of total population)	73	74	77
Poverty (% of population below US\$1 per day)	18.1	—	9.5
GNI per capita, Atlas method (current US\$)	2,050	2,360	3,600
GDP growth, 1995–2000 and 2000–4 (%)	2.3	3.6	1.5
Adult literacy rate (% ages 15 and over)	—	88	89
Primary, secondary, tertiary school enrollment (% gross)	88	87	82
ICT sector structure			
Separate telecommunications regulator	YES	YES	—
Status of main fixed-line operator	Private	Private	—
Level of competition: international long distance	P	C	—
Level of competition: mobile	P	C	—
Level of competition: Internet service provider	C	C	—
Government prioritization of ICT (scale 1–7)	—	2.8	3.5
ICT sector performance			
Access			
Telephone main lines (per 1,000 people)	66	74	181
International voice traffic (minutes per person) ^a	17	46	—
Mobile subscribers (per 1,000 people)	49	149	324
Population covered by mobile telephony (%)	—	75	76
Internet users (per 1,000 people)	31	105	104
Personal computers (per 1,000 people)	40	52	75
Households with television (%)	67	—	88
Quality			
Telephone faults (per 100 main lines per year)	17.1	—	—
Broadband subscribers (per 1,000 people)	0.0	7.6	5.2
International Internet bandwidth (bits per person)	4	55	165
Affordability			
Price basket for fixed line (US\$ per month, residential)	18.9	19.4	9.0
Price basket for mobile (US\$ per month)	—	21.9	9.1
Price basket for Internet (US\$ per month)	—	32.8	31.5
Price of call to United States (US\$ per 3 minutes)	2.08	1.08	0.90
Institutional efficiency and sustainability			
Total telecommunications revenue (% of GDP)	2.7	3.0	3.3
Total telephone subscribers per employee	317	—	—
Total telecommunications investment (% of revenue)	22.2	19.2	—
ICT applications			
ICT expenditure (% of GDP)	6.9	6.9	5.3
E-government readiness index (scale 0–1)	—	0.52	0.39
Secure Internet servers (per 1 million people)	1.3	4.7	8.6
Schools connected to the Internet (%)	3	—	—

Notes: P = Partial; C = Competition

Sources: The World Bank, Internet World Stats and INEI Peru



ANNEX B – INSTITUTIONAL FRAMEWORK

B.1 PUBLIC ENTITIES

Consejo Nacional de Ciencia Tecnología e Innovación Tecnológica (CONCYTEC): The CONCYTEC is a government body entrusted with the supervision of the national system for Science, Technology and Innovation. The system includes universities, research centers, business organizations, and civil society organizations. CONCYTEC’s objectives include the regulation, promotion, coordination and monitoring of the state’s activities in this field, as well as the support for its development through concrete programs and interventions. CONCYTEC plays an important role in the implementation of the “National Strategic Plan of Science, Technology and Innovation for Competitiveness and Human Resources Development—PNCTI, 2006–2021”.

Comisión Multisectorial para el Seguimiento y Evaluación del Plan de Desarrollo de la Sociedad de la Información (CODESI): Established in 2005, CODESI is a Committee that encompasses all the stakeholders from the public and private sector, academic institutions and civil society organizations involved in the implementation of the Peruvian ‘Digital Agenda’—a plan to build the information society in Peru. CODESI will assist in the designing of concrete actions to be undertaken, and in the monitoring of the implementation. In addition, it will support the coordination among the various members, and provide for the preparation of a periodical report of activities.

Organismo Supervisor de Inversión Privada en Telecomunicaciones (OSIPTEL): OSIPTEL is the National Telecommunication’s Regulator Entity. It is an independent public-sector organization, which

oversees all aspects of telecommunication services. OSIPTEL’s main objectives are: (i) to support a balanced growth of the telecommunication sector; (ii) to promote universal access to telecommunication services; (iii) to provide transparent information to consumers and to protect their rights; and (iv) to pursue the highest level of efficiency, effectiveness and transparency in the regulation of the telecom market.

B.2 PRIVATE ENTITIES

Cámara de Comercio de Lima (CCL): The Chamber of Commerce of Lima is one of the largest business associations of Peru. Its activities include: (i) advisory support for the public sector; (ii) supervision of the market; (iii) provision of business services to members; and (iv) organization of promotional activities at the national and international levels. The CCL—together with APESOFT (Peruvian software association)—are the promoters of the PACIS program for the development of the software industry in Peru.

Asociación Peruana de Software (APESOFT): APESOFT is the association of the Peruvian Software developers and IT service providers. Founded in 2000, it is a private entity whose aims are: (i) promotion of the national software industry; (ii) improvement of members’ competitiveness; and (iii) support to exporters of software and services. APESOFT strictly cooperates with the Commission for the Promotion of Exports (PROMPEX) of the Peruvian Government. APESOFT has about 250 member companies, which together represent a turnover of nearly US\$150 million and 6,000 employees.

Camara Peruana de Empresarios de Tecnologías de Información y Comunicaciones (CAPETIC): Established in 2005, CAPETIC is an association of small software developers active in the region of Arequipa. CAPETIC’s activities include: (i) advisory support for policy-making in the ICT sector; (ii) promotion of the quality upgrade of software

companies through the acquisition of quality certificates; (iii) organization of meetings to promote collaboration among members; (iv) organization of training sessions and other events; (v) provision of consulting services; and (vi) establishment of a documentation, information and dissemination center.

Asociación Peruana de Empresas de Servicios de Internet (APESI): APESI is a non-profit organiza-

tion that includes 15 Internet services companies (Internet Points). The association has the following goals: (i) upgrading the “Cabinas de Internet” (Internet Points) into full-fledged data transaction centers; (ii) improving the managerial capacity of the Cabinas’ administrators; (iii) improving the competitiveness of the Cabinas through measures aimed at reducing operating costs; and (iv) setting up an effective security system for Internet Points.

ANNEX C – THE FINANCIAL SECTOR

TABLE 3. *Composition of Peruvian Financing System*

Type of Institution	# of Units
Banking (<i>Bancos</i>)	15
Financial Institutions (<i>financidoras</i>)	4
Leasing Companies (<i>Arendadoras</i>)	6
Municipal Companies of Savings and Loans (<i>Cajas Municipales</i>)	14
Credit Unions (<i>Cooperativas</i>)	165
Development Agencies for Micro and Small Enterprises (<i>Edpymes</i>)	14
Rural Companies of Savings and Loans (<i>Cajas Rurales</i>)	12
Government Banks (<i>COFIDE and Agrobanco</i>)	2

TABLE 4. *Salient Features of Selected Peruvian Banks*

Bank	Total Assets (US\$ billion)	Comments
Banco de Credito del Peru	10.0	Established in 1889 as Banco Italiano. In 1942 it became the Banco de Credito del Peru. In 1993, it acquired the Banco Popular de Bolivia. In 1994, it established the Credifondo, a subsidiary specializing on mutual funds, and Credileasing, a company focusing on leasing products. Today, the BCP has 237 offices, more than 10,000 employees and various presences overseas. It is the largest bank of Peru in term of assets.
BBVA Banco Continental	5.4	BBVA Banco Continental was established in 1998, with the privatization of Banco Continental and the acquisition from the giant Banco Bilbao Vizcaya Argentaria (BBVA). Today, it is the second-largest commercial bank of Peru, accounting for 22.5% of total assets of the banking system. BBC has a network of 178 presences and a staff of around 3,200.
Interbank	2.1	Banco Internacional del Perú (Interbank) is one of the oldest financial institutions operating in Peru. It was established in 1897. The main investor in Interbank is IFH Perú Inc. Interbank has strengthened its position in the Peruvian financial system by (i) the acquisition in 1999 of Peruana -PORFIN S.A, which is oriented toward consumptions credit lines; (ii) the acquisition in 2001 of the Banco Latino; and (iii) the acquisition in 2002 of Aval Card, a Credit Card business.

TABLE 4. *Salient Features of Selected Peruvian Banks*

Fund	Funding (US\$ mn)	Deals	Comments
Value Investment Peru	~30	7	Established in 2001, Value Investment Peru (VIP) is an asset management and VC firm. Its main financing vehicle is the Fondo Stella, which is a private equity scheme with a capital of about US\$30 million. The fund has concluded seven transactions, and it is now fully invested. Investees include one business in the ICTE sector.
SEAF Peru	15	4	In 2004, SEAF set up the subsidiary SEAF Peru SAFI, which administers the <i>Fondo Transandino Peru</i> (FTP). The FTP is a US\$15 million financing vehicle for SMEs established by SEAF in partnership with USAID, the Swiss SECO, the Belgian BIO and two local pension funds—Prima AFP and AFP Integra. Thus far, SEAF Peru SAFI has screened around 200 proposals and closed four deals, for an overall investment of US\$5.6 million. Around eight more transactions are in the pipelines. These will probably saturate the capacity of the fund, but negotiations are on-going for a new round of financing. The fund has invested in businesses active in various fields, but with a strong focus on exports. No transaction in the ICT/ICTE sector has yet been made.

ANNEX D – LIST OF ENTITIES INTERVIEWED

D.1 PUBLIC ENTITIES

Concejo Nacional de Ciencia y Tecnología – CONCYTEC

- Alejandra Ciurlizza (Centro de Información y Documentación en Ciencia, tecnología e Innovación)

Instituto Nacional de Investigación y Capacitación en Telecomunicaciones – INICTEL

- Ing. Carmen Oriondo Gates

Incubadora de Base Tecnológica del INICTEL

- Lic. Adriana Burkli E., Sub Manager
- Luis Miguel Soto, Business advisor

Programa de Competitividad, Innovación y Desarrollo de la región Arequipa, CID-AQP

- Jose Carlos Cuentas-Zavala
- Juan Carlos Mendoza

CESEM CID AQP – Ministerio de la Producción

- Ing. Becerra

D.2 FINANCIAL INSTITUTION

SEAF Latin America

- Jose Garcia Herz, Vice President

Acción Comunitaria (MiBanco)

- Juan Carlos Negrete

Banco Crédito del Perú

- Carlos Duffod Esquivel, Unidad PyMES – Arequipa

Caja Sur Arequipa

- Manuel Bedregal Salas, General Manager

Caja Municipal de Ahorro y Crédito de Arequipa

- Wilber Dongo Diaz, Manager

Corporación Financiera de Desarrollo – COFIDE

D.3 PRIVATE SECTOR ORGANIZATION

Asociación Peruana de Productores de Software – APESOFT

- Ing Rolando Liendo Chicata, Presidente

ProCapitales

- Laura Fantozzi
- Andres Oneto

Cámara de Comercio de Lima, Programa de Apoyo a la Competitividad de la Industria del Software – PACIS

- Lic. Yosif Humala Acuña, project director and General Manager APESOFT

D.4 ICT/ICTE COMPANIES

ITWORLD

- Rhonny Velasquez, CEO

Doctor Site

- Fernando de la Cuba

LP Analistas y Consultores

- Rolf Pinto

Ingenieria Integral EIRL

- Roberto Paz Garcia

System Developer EIRL

- Mauricio Surco

ECO Media EIRL

- Andy Barreda

NCA Consultores

- Nicolas Antezana

Global System and Consulting SAC

- Jesus Silva

ANNEX E – PROFILES OF SME FINANCING ORGANIZATIONS

PROFILE #1 . *Value Investment Peru (VIP)*

Salient Features

<i>Denomination</i>	Value Investment Peru (VIP)
<i>Nature</i>	Value Investment Perú SAFI, is an assets management and investment fund administrating company.
<i>Location</i>	VIP is based in Lima, Peru.
<i>Geographical Coverage</i>	VIP is a national scheme covering all Peru.
<i>Establishment</i>	VIP was established in 2001.
<i>Funding</i>	VIP manages funds of various natures, including the Fondo Stella, a private equity fund that mainly focuses on established enterprises under financial stress (turnarounds). The funds are provided by undisclosed institutional investors. The total capital under management is about US\$30 million.
<i>Investment Policy</i>	VIP targets mostly deals at the mezzanine level—in particular, enterprises that need a financial restructuring. To a lesser degree, VIP is also involved in early-stage financing—but given its hands-off approach, it prefers deals with companies that do not need ‘smart’ capital. Most of VIP’s investees have a consolidated track record of at least three years in business, but are not necessarily large (most portfolio companies have revenues below the US\$5.0 million mark). The size of the deals is unknown, but it is probably in the US\$2.0–5.0 million range.
<i>Operations</i>	The <i>Fondo Stella</i> has been completely invested, and it is now in the harvesting phase. Seven companies have been financed, including one ICTE firm.

Narrative Description

- The Fondo Stella portfolio includes seven companies:
- El Pedregal (agribusiness)
- Sur Corporation (TV Channel)
- EBIZ (e-business services)
- Palacios Hnos.
- Corporación Maderera (commodities export)
- Fábrica Fideos Nápoli (food processing)
- DM&B (technology retail)
- Farmalider (pharmaceutical)
- On November 25, 2002, VIP won an institutional grade fiduciary rating from RCP & Partners, a European rating agency. The rating was assigned to VIP’s management of mid-stage company investments in Peru. It was the first time that an asset manager in Peru received a fiduciary rating.

Sources on the Web

- www.valinvest.net

PROFILE #2. SEAF Peru

Salient Features

<i>Denomination</i>	SEAF Peru SAFI
<i>Nature</i>	SEAF Peru is a fund management company established as a subsidiary of SEAF international.
<i>Location</i>	SEAF Peru is headquartered in Lima.
<i>Geographical Coverage</i>	SEAF Peru is a national scheme.
<i>Establishment</i>	SEAF Peru was established in February 2004.
<i>Funding</i>	SEAF Peru manages the Fondo Transandino Peru (FTP), a US\$15 million facility focusing on early-stage and expansion capital for SMEs. FTP's sponsors include various international organizations: USAID, BIO (Belgian Development Agency) and SECO (Swiss Development Agency). In addition, part of the funds is provided by the Peruvian pension funds: Prima AFP and AFP Integra. The fund has a tenure of eight years. Negotiations have already started to increase the corpus of the fund.
<i>Investment Policy</i>	SEAF Peru targets SMEs with an established organization and proven growth potential. Ideally, candidates should have an annual turnover of US\$1.0–15.0 million. The size of investments ranges from US\$200,000 up to US\$2.5 million. Thus far, it has averaged US\$1.4 million. The scheme is generalist, but a special preference is for export-oriented business. The average duration of investments is four years. Typically, the financing instruments adopted by SEAF include equity and quasi-equity.
<i>Operations</i>	SEAF Peru has examined more than 200 investment proposals and concluded four deals, for an overall amount of US\$5.6 million. Three of the investees are exporters. Eight more transactions are currently in the pipeline with enterprises coming from a variety of sectors, including tourism, energy, health-care, food processing and education. No investment in the ICT/ICTE sector has been done or is being planned.

Narrative Description

- SEAF is headquartered in Washington, DC, and operates a network of offices in around 13 countries. SEAF is a private non-profit organization. The capital of investment funds managed by SEAF is provided by IFIs, donors, bilateral DFIs and, to a smaller extent, private entities, such as pension funds and venture capital funds. The total capital under management since inception is about US\$285 million (committed funds). Since inception, SEAF funds have invested in around 230 companies, with around 130 full or partial exits.
- SEAF Peru's portfolio currently includes:
 - Southwest Marbles and Stones (export)
 - Sunshine Export (food processing and export)
 - SomexPerú (mari-culture, export)
 - Andean Experience (tour operator)
- According to SEAF Peru's management, the main problem in Peru is not a lack of funds, but the scarcity of skilled managers and the lack of connections among the public sector, the private sector, and academia. An important step in the right direction would be the improvement of links between incubators and university research centers and the smart money suppliers (VCs and business angels). SEAF Peru would certainly be involved if a seed fund was created in Peru.

Sources on the Web

- <http://www.seafperu.com/ftp.htm>

PROFILE #3. COFIDE

Salient Features

<i>Denomination</i>	Corporacion Financiera de Desarrollo S.A – COFIDE
<i>Nature</i>	COFIDE is a state-owned development financial institution with substantial administrative and financial autonomy.
<i>Location</i>	COFIDE is based in Lima.
<i>Geographical Coverage</i>	COFIDE operates throughout all of Peru.
<i>Establishment</i>	It was created in 1992 as a first level bank. Then it was transformed into a second level bank, which means that it manages and channels financial resources toward the institutions registered at the Superintendence of Banks and Insurance – SBS.
<i>Funding</i>	As of 2006, COFIDE had total assets in excess of US\$1.0 billion. Funding comes from: (i) the “National Fund for the Financing of Entrepreneurial Activity – FONAFE” of the Ministry of Economy and Finance; (ii) various multilateral organizations; (iii) international commercial banks; and (iv) the domestic capital market. It is participated for at 98.56% by the Peruvian State which is represented by – FONAFE. The other 1.41% is participated by the Andean Promoting Corporation – CAF.
<i>Investment Policy</i>	<p>COFIDE is a financial institution with a development approach. Programs and credit lines are oriented to support all stages of the investment process, from initial feasibility studies to technology upgrade, and export operations. COFIDE has some special financial lines for SMEs such as:</p> <ul style="list-style-type: none">■ Microglobal, for working capital needs of micro-firms. Loans to final borrowers are up to US\$10,000;■ Propem, for working capital and investment needs of small firms. Loans to final borrowers are up to US\$300,000 for investment purposes, and up to US\$70,000 for working capital.■ Habitat-productivo, for: (i) working capital and purchase of equipment and industrial machinery; (ii) acquisition, maintenance and modernization of commercial spaces and plants. The maximum loan amount is US\$10,000. <p>COFIDE does not have any specific financing lines for the technology sector.</p>
<i>Operations</i>	COFIDE is a second level institution. Therefore, it does not operate directly with recipients, but rather through a network of accredited financial institutions, which include major commercial banks, rural credit facilities and microfinance institutions. This network includes around 1,000 decentralized offices nationwide that operate in a variety of sectors. In 2004, operations with micro and small enterprises accounted for 47% of the total. About 83% of resources are channeled through commercial banks, while the remainder include cooperatives and, rural credit facilities. The majority of resources was employed in the construction sector (nearly 39%). Manufacturing industry absorbed about 16%; services about 13%; and retail another 8%.

Narrative Description

- COFIDE's involvement in the SME segment was increased by the Law 28015, “for the promotion and establishment of SMEs”. In this framework, COFIDE has been entrusted with: (i) the promotion and articulation of the financing supply for SMEs, through a diversification of products; (ii) the design of a strategy for the development of financing instruments, and of technology to support the efficiency of interventions in this field; (iii) the implementation of a system for risk assessments related to the various sectors, in coordination with SBS; and (iv) the development of credit guarantee schemes for SMEs.
- Programs and credit lines proposed by COFIDE are tailored toward the specific segment to which they are targeted—final borrowers. The management of COFIDE's financial lines is decentralized. In other words, conditions such as guarantees, interest rates, and repayment periods are fixed autonomously by each intermediary financial institution.
- COFIDE defines “Micro-firm” as an enterprise with no more than 10 employees, including the owner, and with a total asset value of not more than US\$20,000, including immovable goods. A “Small firm” is defined as a company whose annual sales are below US\$1,500,000.

Sources on the Web

- <http://www.cofide.com.pe/>



ANNEX F – PROFILES OF ICT/ICTE SMES

DOCTOR SITE

Operations

Established in 2003, *Doctor Site* is a sole proprietorship company located in Arequipa. It specializes in website design, systems and technical support. The firm has two main collaborators: one specializes in advertising; the other is in charge of sales. The company has some clients in Lima, but focuses mainly on the international market: it exports services to England, the US, Canada and South Africa. Customer management and follow-up is web-based by using applications, such as Skype and Messenger.

Financing

The company is financed through internal investments of the owner. At this stage, it would be helpful to receive some external financial support, especially regarding training activities. However, the fact that the company is not yet formally registered, is obviously an obstacle. Regarding informality, in this period the CID-APQ Program is assisting the company in registering its activity as a software company. The owner believes that having other partners would lead to management problems, so this prevents him from searching for private investors. At present, the main priority related to the company's growth is to enlarging its clientele, rather than having access to external financial resources.

Comments

The company's owner is in charge of all aspects of the business operations. This represents a constraint for the firm's development in the future, since growing would require a more structured organization. On the other hand, one of the problems faced

by the company, according to the interviewee, is the lack of skilled workers. Because even university courses only teach single and isolated programming packages, it is necessary to invest in training courses benefiting the employees.

INGENIERIA INTEGRAL EIRL

Operations

Ingenieria Integral was established in 2000. It specializes in software development and e-Learning. The core team consists of three partners, and the company can count on external collaborators according to needs of individual projects. *Ingenieria Integral* works with Open Source Software and actively participates in the International Open Source Forum. The company develops specific applications for using Open Source Platforms. The current operations mainly concern: (i) hardware maintenance; (ii) development of specific programs related to clients' specific needs; (iii) organization; and (iv) implementation of training courses. The organizational structure is very simple—there are three basic divisions: sales, programming and management. The company serves clients based in Colombia, Spain and Germany—the clientele in Peru is very limited.

Financing

The initial capital came from the founders' own resources. It took about two years before the company started to have some returns. In order to expand and have a permanent cash flow, it is considering offering support services to clients, once the personalized software application is designed and sold. That would create a competitive advantage, but additional staff would be needed, and training costs are prohibitive. *Ingenieria Integral* is looking for partners to expand its activities. The company wants to develop a research project to create new tools, and to gain international recognition for its own products. According to the interviewee, external financing with a bank loan is not an option, because it would mean contracting a

debt that the company might not be capable of repaying. The company is aware of the risks and costs of the Peruvian banking system. In addition, guarantees requirements are a problem for most ICT entrepreneurs. Two other possible ways to attract external financing and training support are: (i) the German Cooperation, which offers Latin American citizens access to training programs abroad (e.g. fellowships); and (ii) CONCYTEC, which is an initiative co-funded by the IDB that provides credit lines to support R&D activities. *Ingenieria Integral* is also in touch with some business angels from Sweden, but for the time being, the main source of financing remains the customers.

Comments

According to the interviewee, Peruvian entrepreneurs are generally very risk-averse. They prefer to avoid expanding, rather than to incur a debt or create a new partnership. Moreover, the ICT sector is not very developed in Peru. Clients do not understand the concept of cooperativeness related to Open Source Technologies. To overcome this problem and increase access to the Peruvian market, *Ingenieria Integral* is considering offering the application cost-free for a certain period to potential clients, so that they can test it first and decide later whether they want to buy it.

SYSTEM DEVELOPER EIRL

Operating

Established in 2002, *System Developer* was founded by two partners and counts on an operational staff of six employees. The company can also count on external staff, mobilized according to the specific needs of the various projects. *System Developer* specializes in web solutions and multimedia applications. Currently, one of its projects is the development of a maintenance system for the mining industry. It is working on the development of simulations techniques and web training.

Financing

The initial capital for *System Developer* came from the founders' own savings. The clients fund the operational activities. The company serves a large clientele with various needs—therefore, it must have qualified human resources. The follow-up activities

could be a good path to explore, but they are expensive, both in monetary and time terms. According to the interviewee, a bank loan cannot be an option for their financial needs, mainly due to the lack of collateral. *System Developer* has not yet sought funding—perhaps because of this pessimistic outlook toward external financing.

Comments

According to the interviewee, it is difficult for the company to expand its customer base, even though it offers high quality products. Growing would require: (i) a better organizational structure; (ii) a more highly-skilled and well-trained staff; and (iii) more investment in R&D. Because the company is small, it has limited negotiation power. Therefore, the company believes that it is very important to belong to an association such as CAPETIC.

GLOBAL SYSTEM AND CONSULTING SAC

Operating

Global System and Consulting was established two years ago as a sole proprietorship company. It provides software products and solutions. It currently has 15 employees. The founder worked for a similar company in Mexico, and replicated the same business model in Peru. The first client arrived one year after the company's establishment. Thus far, *Global System and Consulting* serves only foreign clients.

Financing

During the start-up stage, the company was financed through the owner's internal investments. He developed and implemented the training process of the employees during the first six months of operation. Currently, the major source of financing is from the customers—by using the “*tarjeta solucion*” from Banco Credito. The owner has considered the possibility of external financing through either a bank loan or private investors, but he has taken no concrete steps in that direction. He has not pursued the first option because the bank credit line for SMEs has very high interest rates, and because substantial collateral is required. He has not pursued the second option because he believes that neither private investors nor business angels would be interested in the company.

Comments

The interviewee believes that the Peruvian ICT market is too small and underdeveloped. It is very difficult for ICT companies to access external financial sources. The problem is particularly acute for small companies that face problems with liquidity. It would be of great help if more flexible financial schemes were designed and applied to companies in the ICT sector. According to the interviewee, the tax system is very rigid, and there is high degree of unfair competition.

NCA CONSULTORES

Operating

NCA Consultores was established in 1982. The founder also works for the Peruvian ICT Association. The company was initially established as a software house. Today, it is more oriented toward IT consulting services. The main areas of NCA's activities are: (i) implementing quality systems; (ii) creating value through innovative education and R&D systems; (iii) supporting the deployment of advanced IT tools and applications; (iv) designing IT security systems; and (v) designing customized enterprise software solutions.

Financing

Since its establishment, the company has been financed through its own savings—it has never applied for a bank loan. According to the interviewee, it is very difficult to find private investors in Peru, but should the opportunity arise, they would be more than open to it. The company's main problem concerns working capital. There are significant delays from the moment they invest in a new product to the moment they see a financial return. On average, they register cash inflows every four months. The company is currently searching for external financing to develop a new project—a sort of electronic 'yellow pages'.

Comments

According to the interviewee, some of the problems the company has to face are:

- The maintenance of staff and technicians—usually the company engages external staff for the projects, but lately there has been an increased need to have permanent personnel;

- The informal financial market is quite developed, in light of the entrepreneurs' limited access to external financial capital;
- The tax legislation is rigid and does not support entrepreneurship;
- The ICT sector is still largely undeveloped in Peru. Firms that could benefit from ICT are reluctant to invest, because they lack information on the advantages of ICT. Firms that already use ICT tools are not very interested in innovation, because it would mean investing in research and training. As a result, ICT firms operate in a difficult market that cannot move forward.

LOLIMSA

Operating

LOLIMSA was established in 1987. It belongs to a small group of companies developing technological projects exclusively oriented toward the health and sanitation sector—mainly concerning the management of hospitals and chains of pharmacies. *LOLIMSA* offers IP software products and various IT services, such as IT consultancy, data base management, and e-transaction solutions. The main office in Peru has 40 employees. *LOLIMSA* has a multidisciplinary team with experts from various sectors, which is engaged in consulting services. That team is complemented by a staff of professionals who advise on the strategic associations. The company also operates in Argentina, Brazil, Bolivia, Colombia, Costa Rica, Dominican Republic, Ecuador, Mexico and Venezuela. It has subsidiaries in some of those countries, and has opened an office in Miami.

Financing

In its start up phase, the company was financed with the founders' own savings. Ever since, it has been financed through the re-investment of the earnings. Occasionally, *LOLIMSA* has benefited from external funding from the banking sector. *LOLIMSA* has chosen to manage subsidiaries by franchising. As a first step, the company looks for a retail distributor in the country of interest; then it becomes a partner (25–30% of shares) with this local actor. Eventually, when the business has developed and expanded, the company sells its participation to the local partner and follows a franchising scheme.

Comments

The CEO and one of the founders of the company, Mr. Rolando Liendo, is also the director and one of the founders of APESOFT, the Peruvian software association. Because the company offers high quality products and services, it obtained the ISO certifica-

tion 9001:2000 for the development of software and software implementation. This allows the company to compete at international levels. *LOLIMSA* is now working to obtain a CMM level 4 Certification and a Social Accountability Certification.

About *infoDev*

infoDev is a partnership of international development agencies, coordinated and served by an expert Secretariat housed at the World Bank, one of its key donors and founders. It acts as a neutral convener of dialogue, and as a coordinator of joint action among bilateral and multilateral donors—supporting global sharing of information on ICT for development (ICT4D), and helping to reduce duplication of efforts and investments. *infoDev* also forms partnerships with public and private-sector organizations who are innovators in the field of ICT4D.

infoDev's mandate is to help maximize the impact of ICTs in global efforts to achieve the internationally-supported Millennium Development Goals. These include improving education and health services, making public institutions more efficient and transparent, supporting rural livelihoods, and contributing to economic growth by supporting small and medium-sized enterprises that use ICT for their business.

For more information visit www.infoDev.org or send an email to infoDev@worldbank.org

