Information and Communications Technologies:
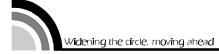
Are They the Key to Viable Business Development Services for Micro and Small Enterprises?

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MICROENTERPRISE BEST PRACTICES
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Information and Communications Technologies: Are They the Key to Viable Business Development Services for Micro and Small Enterprises?

by

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LIST OF ACRONYMS AND ABBREVIATIONS

BICC	Business Information and Communication Center
EDI	Electronic Date Interchange
ICT	Information and Communication Technology
InfoDev	Information for Development Program
IDRC	International Development Research Center
ITU	International Telecommunications Union
MCT	Multipurpose Community Telecenter
MSE	Micro and Small Enterprise
NGO	Nongovernmental Organization
PCO	Public Calling Office
POTS	Plain Old Telephone Services
PVO	Private Voluntary Organization
UNDP	United Nations Development Programme
USAID	United States Agency for International Development

EXECUTIVE SUMMARY

Rapid developments in new information and communication technologies (ICTs) are beginning to affect the economic, political, and social landscapes in industrialized and developing countries. These technological developments are stimulating growth in the global economy, altering economic structures, and giving rise to new products, new services, and new ways of doing business.

As telecommunications networks are extended to previously remote areas, the residents of local communities are acquiring new capabilities to access information and communicate with the outside world in ways that were unimaginable until recently. These new technologies offer previously disadvantaged groups opportunities to leap into a future with new possibilities for economic and social progress.

Although economic development strategies generally acknowledge that telecommunications are a key aspect of economic development, many sectoral programs are just beginning to recognize the potential that new ICTs hold for accomplishing their particular objectives. This is the case for microenterprise development programs. Business development practitioners concerned with problems facing micro and small enterprises (MSEs) are just beginning to understand how ICT applications can be used more effectively to promote MSE growth.

This study of documents and on-line information offers an initial assessment of how ICT developments are affecting MSEs. It looks at the MSE customer and examines the current uses and benefits of basic communication and information services. It looks at ICT suppliers and examines the effectiveness and viability of different service delivery models in supplying telecommunications and other business services to MSEs. It concludes with recommendations on a research agenda to more systemically examine the principal findings of this review and to explore ways in which new information and communication services can more effectively support MSE development.

PRINCIPAL FINDINGS

MSE demand for basic communication services is growing. The evidence reviewed in this desk study demonstrates that there are clear needs and a growing demand among MSEs for *basic telecommunication services* such as local and long-distance phone and fax services. As new telecommunication services become more readily available and affordable, micro and small businesses of various types have emerged as some of the more avid customers. The availability of basic communication services makes it possible for businesses of all sizes to operate more efficiently, reduce their business transaction costs, expand their networks of business and personal contacts, access new markets, obtain better price information, and generally become more competitive.

An expanded communications infrastructure to previously underserved communities makes it possible for MSEs to access a whole new range of communications and information services.

This study looked for examples of where the information needs of micro and small enterprises were enabled by the Internet. The report found interesting examples where NGO or private sector providers introduced new types of information services to its customers. In Bangladesh, for example, customers from rural areas are being prepared not only to use the wireless phone services provided by Grameen Communications, but also to use a range of new Information Age services provided by Cyber Kiosks being developed by Grameen under its Village Internet Program. In several other countries (South Africa, Senegal, and Indonesia), examples exist of efforts to upgrade village phone shops to enable them to offer e-mail and Internet-based information and training services.

MSEs are beginning to demand higher value-added services. Awareness and demand, however, are still quite low. The current gap between the actual and potential uses of ICT-based services will close incrementally as consumers become more aware of the benefits of interactive information services and as suppliers identify cost-effective strategies to provide customized information products to large numbers of MSEs at affordable costs.

There are financially viable business models able to satisfy MSE demands for basic communication services. This study provides examples from several countries of ways in which MSE demands for basic telecommunication services are being satisfied through business models that appear to be financially sustainable. Evidence from a range of developing countries, including Bangladesh, India, Indonesia, the Philippines, and South Africa, suggests basic telecommunication services can be provided to rural and underserved urban communities on a commercially viable basis through a range of business models, such as privately owned phone-shop franchises or individual cellphone subscriptions. This finding is significant for several reasons:

- As telecommunication suppliers in different countries succeed in developing business approaches that make it feasible to offer telecommunication services to underserved groups, they become more willing to expand their efforts to serve the mass market of lower income rural and urban customers.

- Once a basic communications infrastructure is in place, information technology suppliers can offer additional, value-added services to their customers. Through these same channels, they can offer Internet services—including e-mail, various information services, distance learning services, telemedicine, and a variety of other uses—to MSEs and other customer groups.

- From the perspective of MSE needs, these new communications and information tools make it easier for different types of business development organizations to provide business services much more effectively than was previously possible, to identify buyers and suppliers more efficiently, to market products in more distant and higher value markets, and to disseminate new business or training opportunities. Moreover, information on best practices in serving MSEs can be made available more quickly and to wider networks with new uses of information technology.

Business models that offer a basic set of standardized services—such as phone or postal services—to a broad area-based market appear to be commercially viable. This enables the service provider to cover basic operating costs by serving multiple client groups even when the demand from one segment—such as microenterprises—might be weak. Interestingly, the report found that business models that start basic do not necessarily stay that way. Incremental service add-ons to the core package of services offer service providers a relatively low cost and low risk strategy to test new products or services for its customers. The report found examples where phone shops added new services—such as fax, copying, or even Internet access—at modest additional costs. The evidence that certain types of basic ICT services, and related add-on services, can be provided to MSEs and other low-income client groups on a financially sustainable basis has profound implications on the efforts of business service providers to offer more complex—and typically more costly to deliver—services to MSEs.

Are subsidies needed to improve the supply of ICTs for MSEs? Evidence is growing that with the right delivery systems and policy environment, basic telecommunications services can be provided to rural and underserved communities through private business channels on a commercial basis without subsidies. It remains unclear whether more advanced communication and information services can be provided to MSEs and other lower income groups through commercial channels, or whether subsidies would be required to create and support new channels for more equitable access to ICTs by disadvantaged groups.

Many of the information and training services promoted through *telecenters*—community based, publicly funded common service centers—are newer versions of the types of services that governments traditionally have supported using public funds. These services include certain types of MSE training or technology acquisition services, distance education, and high-tech postal services. This literature review suggests that a credible argument can be made for initial subsidies to help foster the development of useful content in certain fields, establish basic connectivity and access, or provide training in the use and delivery of certain types of information services. Once initial public investments are made, however, the resulting products and services can be delivered through privately owned or community-owned businesses with public subsidies made available in the form of performance-based service contracts to provide targeted services for fixed periods of time. The literature suggests that when fee-for-service procedures and performance incentives are adopted from the outset, a bottom-line orientation could be reinforced, and the prospects for developing sustainable operations and service access can be improved.

RESEARCH ISSUES AND ACTIVITIES

The desk study shows that our understanding of the effects of ICTs on MSEs is anecdotal at best. It highlights a number of key issues and research questions where more systematic research is needed to better understand how ICT developments are affecting the prospects of MSEs, both as users and suppliers of services.

- How can public policy initiatives increase access to the ICT infrastructure and services by lower income groups?

- What are the mix of communication and information products and services that MSEs value, and how will this mix change over time?

- What delivery channels and service combinations are most likely to be financially sustainable?

- How can more complex or specialized information and business services be supplied to MSEs using ICT applications?

- How does increased access to ICT-based services affect the business operations of MSEs?

- What are the emerging business opportunities for MSEs as suppliers and/or supporters in the rapidly expanding ICT sector of developing country economies?

This report documents our understanding of ICTs on MSEs, offers an analysis framework to guide future research, and outlines a specific research activity in the Philippines that would advance our understanding of how new information and communication technologies could benefit the viability and growth of MSEs.

CHAPTER ONE
INTRODUCTION

The information revolution is sweeping across the world, and the global economy is increasingly an information- and knowledge-driven one. Telecommunications is the backbone of the global information economy and is becoming more and more important. It is not simply an aspect of development, but a precondition for its success.[1]

The rapid development and spread of new information and communication technologies (ICTs) is producing remarkable changes throughout the world both economically and socially. Technological developments are stimulating growth in the global economy, altering economic structures, and giving rise to new products, new services, and new ways of doing business.

Although the pace of technological change has been faster in the more advanced economies, developing economies are being affected as well. Telecommunications networks are being extended to previously remote areas, enabling local communities to access information and communicate with the outside world in ways that were unimaginable until recently. With these developments, local communities are poised to share in the benefits of new technologies and take a big leap into a future that offers new possibilities for economic and social progress.

INFORMATION AND COMMUNICATION TECHNOLOGY AND DEVELOPMENT

Current economic development strategies generally recognize the importance of telecommunications as a key aspect of economic development. As a recent World Bank report noted:

> It is now universally accepted that telecommunications is an essential infrastructure for economic development of any country. Telecommunications is both the core and the infrastructure of an information economy. Information is now accepted as a fundamental "factor" of production as evidenced by fast growing demand for information processing and transmission. As the world enters the "information age," information will play an increasingly important role in economic development. It has been estimated that by the turn of the century 70 percent of all employment in OECD countries will be information related. This trend in the industrialized countries is spilling into the developing countries as they are drawn into the global economy. Timely availability of information has become the overriding factor in global competitiveness and countries which do not have or provide adequate

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[1] *Green Paper on Telecommunications Policy*, Chapter I. Government of South Africa, 1995.

facilities to timely generate, process and transmit information are almost definitely doomed to economic stagnation.[2]

Over the past two decades, the introduction and spread of digital technologies has stimulated the development of a wide variety of new products and processes and helped launch new areas of economic activity. New business fields have opened up. Companies have embarked upon massive re-engineering efforts to take advantage of the gains in productivity that information and communication technologies offer. Similarly, government organizations in many countries have launched re-engineering and restructuring efforts in an attempt to reduce operating costs and deliver services more effectively.

It is increasingly obvious that countries in the forefront of modernizing their telecommunications and information infrastructure are benefiting. As Mahathir Mohammed, the Prime Minister of Malaysia noted, "It can be no accident that there is today no wealthy developed country that is information-poor, and no information-rich country that is poor and undeveloped."[3] Nations and communities that lead in developing and mastering modern telecommunications and information applications will have a tremendous competitive advantage over those who lag behind.

Information and telecommunications systems and applications enable people and organizations to coordinate activities with other people and organizations in different locations, regions, or countries. Successful organizations increasingly will be those that are able to engage and coordinate individual and collective resources, skills, and opportunities across a range of sectors and places. Access to telecommunications resources will become even more critical for individual organizations or communities seeking to undertake coordinated, cooperative efforts in various fields of endeavor. Communities and individuals who do not have access to telecommunications facilities will be less able to access information, benefit from the growing stock of collective know-how, and cooperate in undertaking social and economic development efforts.

Gaining access to modern telecommunication facilities has become a basic requirement for communities seeking to benefit from the advent of the information age. New development opportunities in areas such as distance education and telemedicine are only available to communities that have access to modern telecommunications and information infrastructure. Similarly, businesses, large and small, can only take advantage of the new market opportunities that the information revolution is generating by first gaining access to and learning to use the basic tools and utilities of the information age—the telecommunications and information applications and infrastructure on which this revolution rests.

Ensuring equitable access to ICT-based services is emerging as one of the key development challenges of the 21st century. For this reason, development practitioners will need to give serious attention to ICT developments and trends

[2] *Performance Indicators for the Telecommunications Sector*, World Bank Telecommunications and Informatics Division, Industry and Energy Department, May 1995.
[3] Schware, Robert. "Information Technology and Development." Unpublished topic paper. World Bank, InfoDev. January 1995.

Many economic development practitioners are just beginning to recognize the potential that new ICTs hold for meeting particular development objectives. In microenterprise development, for example, ICT applications are beginning to be used in lending operations, as well as in overall program management, regulation, and supervision. New telecommunications and information infrastructures are making possible new types of business services in areas such as marketing support, sourcing of inputs, and training. Improved telecommunication facilities are also making it possible for MSEs to communicate with buyers and suppliers, access market information, and tap new markets in ways and at costs that were not previously possible.

PURPOSE OF THE DESK STUDY

Anecdotal evidence suggests that new communication and information technologies are beginning to offer micro and small enterprises (MSEs) a range of new and exciting development opportunities. There remains, however, large gaps in our knowledge on how to improve access to, and the mix and quality of, ICT-based services:

- What specific ways are ICT developments affecting micro and smaller firms in developing countries?

- What are the types and combinations of ICT-related services, existing or potential, that MSEs value and want?

- What are the delivery options, and their performance characteristics, in serving MSEs with communication and information services?

This study attempts to address some of these information gaps. In the following chapter, we present the findings of a review of existing literature and on-line information sources. This chapter focuses on two main issues: (1) the principal ways in which new information and communication technologies are affecting micro and small enterprises and (2) the effectiveness and viability of different service delivery models in supplying telecommunications services and other business services to MSEs.

In Chapter Three, we summarize these findings against a set of issues affecting MSEs' access to ICT-based services.

Chapter Four defines a research activity to systematically document and learn about access, uses, and benefits of basic, and more value-added, ICT-based business services delivered to MSEs by both private and not-profit service providers.

CHAPTER TWO
THE IMPACT OF ICT DEVELOPMENTS ON MSES
AND THE EVOLVING DEMAND SERVICES

We have a saying: "When the telephone rings, business is coming."
— Manager of a rural cooperative in China[4]

To help understand the impact of ICT developments on microenterprises, it is useful to first examine ways in which new information and communication technologies are affecting the operations of larger enterprises and the likely implications of these changes for micro and small enterprises.

HOW ARE LARGER ENTERPRISES BEING AFFECTED BY ICT DEVELOPMENTS?

The importance of various types of information and communication services to companies depends upon a number of factors, such as the size of the enterprise, the type of business a firm is in, the nature of the markets in which they operate, and the competitive pressures they face from other firms. Many of these effects are fairly predictable and easy to understand. It is generally the case that smaller firms will have more basic communication and information requirements than larger enterprises, whose internal operations and external networks are likely to be considerably more complex. Similarly, it is easy to see that a firm's requirement for managing information and communicating with customers, suppliers, and other business partners in more distant markets might be considerably more complex than the requirements faced by firms with more localized markets. Companies also need effective systems of internal communications that permit employees to coordinate their efforts, undertake team-based activities, and maintain overall direction and control.

Beyond firm-level impacts, entire industries are becoming more dependent on ICT infrastructure and applications. Financial services, insurance, shipping, retailing, and many manufacturing industries are increasingly incorporating new ICT applications into their business operations. Basic support functions, such as credit card transactions, travel reservations, banking services, credit reporting, parcel delivery, and supply-chain management, could not exist at their present scale and level of complexity without such technologies.

The availability of new information and communication technologies, combined with growing global competition, has prompted companies worldwide to undertake a variety of re-engineering or restructuring efforts to compete effectively and take advantage of emerging business opportunities. New ICTs, with their decreased costs and increased speed, enable firms to adopt new business processes, such as *just-in-time delivery*, which reduces inventory

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[4] Quote from Hudson, Heather E. "Restructuring the Telecommunications Sector in Developing Countries: Lessons from the Asian Experience." Asia TELECOM 97 Conference. Strategies Summit Session, [S.3]-Panel: Bridging the Information Gap. (http://gold.itu.int/TELECOM/aft98/index.html).

costs and makes it possible to restructure supply chains and eliminate certain types of intermediary and warehousing functions. Moreover, networking technologies, combined with information management applications, have enabled companies to restructure the management of their supply chains, substituting lower cost Internet-based information management and communications systems for more expensive electronic data interchange (EDI) systems.

Re-engineering efforts have resulted in *downsizing*—reducing total employment—and *outsourcing*—contracting out production, management, and support functions in lieu of using in-house staff. As these practices have spread, new patterns of employment have begun to emerge—in particular, the growth of a contingency work force, composed of individuals and small firms that supply labor through various types of time-limited contracts. In some cases, such workers are employed off-site and deliver their services and output through electronic channels. Even in the case of full-time employees, certain types of functions can be performed at remote locations, giving rise to various types of *telecommuting* arrangements.

The advances in telecommunications technology—such as fax transmission, e-mail, and file transfer, and more recently, mobile computing, video conferencing, and groupware applications—have contributed significantly to the efficient operation and delivery of customer service, as well as the strategic outreach and interaction of today's businesses. Larger enterprises are using these telecommunications tools to drive efficient internal operations and help manage the increasingly complex information flows required to support their global operations and customer base.

An important characteristic of new information and communication technologies is that they are not only available to larger firms but to smaller ones as well. Smaller firms are using these tools to help form collaborative partnerships and to deliver services more effectively, creating a business presence and quality of service well targeted to an era of outsourcing and increasing growth in entrepreneurial service enterprises. As Robert Reich, former U.S. Secretary of Labor and currently a professor at Brandeis University, noted in a recent speech:

> Information technology is obliterating the distinction between small business and big business. Big businesses are becoming collections of small businesses, and small companies are partnering with one another, creating virtual corporations for a given period. Many industries that have been dominated by large corporations, like the automobile industry, are becoming networks of small suppliers linked through Information Technology. In the past, one of the major barriers to entry for small business into fields dominated by large players was access to information. But large companies no longer have a monopoly on information regarding emerging technologies, consumers, capital markets, or even personnel. Today, small companies can rapidly form niche markets using all this specialized information.

HOW ARE ICT DEVELOPMENTS AFFECTING MSEs?

Even though advances in information and communications technologies are producing remarkable changes in many parts of the world, there are still thousands of villages and towns in developing countries whose residents do not have access to even a public telephone within walking distance of their homes. For MSEs located in these villages, prospects for growth are extremely limited. Local markets may offer few new business prospects, and accessing business opportunities in other more distant markets may be difficult. Lacking the tools to communicate directly with buyers or suppliers in remote markets, MSEs frequently have no alternative but to rely upon middlemen to transact business for them. If they choose to travel to these markets themselves to handle their own business affairs, they must be willing to spend the time and incur the additional costs. Moreover, they have limited means of checking prices in other markets and therefore are forced to accept the terms that local middlemen are willing to offer or else deal more or less blindly with buyers or sellers in other areas. Given these realities, it is easy to understand why there might be pent-up demand for telephone services and other information and communication tools by MSEs operating in these environments.

Fortunately, these types of conditions are starting to give way to more promising conditions that are being generated by the spread of new technologies. Telecommunications advances are making it economically feasible to provide basic telephone connections to previously underserved or unserved communities at dramatically reduced rates. Costs to service providers for delivering local, domestic long-distance, and international telephone services are falling rapidly. Over the next several years, costs are expected to continue to decline to the point where basic connections will essentially be free and service providers will make most of their revenues from value-added services rather than from supplying basic connectivity.[5]

At the same time that telecommunication costs are plummeting, the costs of computing are also dropping. The convergence of telecommunications, computing, broadcast technologies, and other digital technologies has opened up a range of new products and services that were unimaginable a few short years ago—including e-mail, video-conferencing, training services, access to specialized databases, electronic commerce applications, and distance learning. At the current rate of technological development, it will be technically and financially feasible during the coming decade to link low-income rural consumers in remote areas of the developing world with services many operators and equipment suppliers can't offer their richest corporate customers today.

MSE USES AND BENEFITS OF ICT-BASED SERVICES

MSEs, like their larger counterparts, need to communicate with their customers and business partners—including buyers, suppliers, and other service providers. They also need to access

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[5] Forge, Simon. "The Consequences of Current Telecommunications Trends for the Competitiveness of Developing Countries." World Bank, InfoDev Working Paper. January 1995.

information, including information on market opportunities, potential buyers, prices, sources of inputs, production technologies, and government regulations. As is the case with larger firms, MSE needs for information and communication services vary considerably among different types of enterprises. Some of the factors that affect the communication and information uses of MSEs include:

- The operating requirements of the industry or line of business in which MSEs are engaged;

- The sales and logistical requirements of different types of markets in which MSEs might be involved (local, urban, business-to-business, export); and

- Locational or geographic factors (that is, the physical location of firms vis-a-vis their customers, suppliers, and support networks).

Table 1 illustrates how certain market and operating requirements may affect the potential demand for ICT-related services among different categories of MSEs.

Table 1: Operating Requirements, Market Orientation, and MSE ICT Requirements

TYPE OF FIRM	PRIMARY MARKETS	OPERATING REQUIREMENTS	PRINCIPAL TELECOMMUNICATIONS AND INFORMATION NEEDS
Retail/Wholesale			
Market vendors	Local market.	Face-to-face dealings with customers; primarily deal with local supplier.	Minimal business needs; occasional telephone access to order supplies, check prices.
Small shopkeepers	Local market.	Face-to-face dealings with customers; may buy from suppliers in other areas.	Telephone access to order products, check prices; need to be able to access information on suppliers, supply options, prices.
Local wholesalers	Mainly local, but perhaps some regional sales.	May sell to customers or buy from suppliers in other areas.	Telephone/fax access to receive orders from customers and place orders with suppliers; need regular information on suppliers, new products, prices.
Product buyers	Regional, national markets.	Purchase products from local producers, sell to buyers in other markets.	Telephone/fax access to communicate with higher level buyers; need information on prices, product specifications, production technologies.

TYPE OF FIRM	PRIMARY MARKETS	OPERATING REQUIREMENTS	PRINCIPAL TELECOMMUNICATIONS AND INFORMATION NEEDS
Manufacturing/ Processing			
Traditional artisans, manufacturers and processors	Mainly local, perhaps some regional sales.	Mostly face-to-face dealings with customers and suppliers.	Communications and information exchange mainly through personal, face-to-face channels; minimal needs for new ICT services.
Growth-oriented manufacturers and processors	Larger urban or export markets; perhaps sub-contracting relations with larger firms.	Need to be able to take, receive orders from and coordinate shipments to remote buyers.	Need telephone and fax services to communicate with buyers, order supplies, check prices; need information on supply options, new markets, and new products designs; in the future, may need to be able to access new marketing channels such as e-commerce.
Services			
Local services (construction, repair, beauty salons, food vendors, entertainment, etc.)	Local market.	Mainly face-to-face dealings with customers and suppliers; this changes in more competitive markets when speed in service response is the difference between securing or losing orders.	Need occasional phone access to order supplies; construction firms may need information on subcontracting opportunities; daily phone access needed to respond to service requests in a timely fashion.
Transport/delivery	Local and regional markets.	Need to communicate with customers in different areas.	Need good communication services to schedule pickups, deliveries, coordinate with customers, drivers, etc.
Professional services (education, training, health care, legal)	Local market.	Need access to information and materials from non-local sources (e.g., training materials, medical supplies).	Need good communication and information services.
Other knowledge workers or teleworkers	Potentially could serve global market demand by providing contract services to companies in other areas.	Intensive training and information requirements; need to coordinate service provision with remote clients.	Require intensive telecommunications and information support and access to modern infrastructure.

The table illustrates that firms engaged in businesses such as retailing, handicraft production, and local services may have fairly modest requirements for new ICT services. MSEs in these lines of business generally operate in local markets, deal with customers on a face-to-face basis, and order supplies or inputs from local suppliers. The entrepreneur's own business contacts and personal networks may serve as adequate channels for obtaining relevant business information.

MSEs engaged in other types of businesses may have significantly greater needs for information and communication services. Firms in small towns and rural areas that sell products to customers located in urban or export markets need to have access to reliable, low-cost telephone services to contact buyers, check pricing information, arrange transportation, and coordinate shipments. Similarly, firms that order supplies or inputs from dealers located outside their local market area need telephone and perhaps fax access to place orders, check prices, contact new suppliers, and check on shipments. In more competitive local markets, service business, such as home repair, may need to respond quickly to service requests or else lose business to competitors with better communications with customers.

For growth-oriented MSEs—those seeking to take advantage of opportunities in markets outside their local area—access to new communication services and channels is critical to business success. They can carry out critical business functions in less time and at lower cost than they would be able to without telephone services. Growth-oriented MSEs also are a source of potential demand for a range of other ICT-based services. Individual or groups of firms that are capable of supplying products and services to larger firms or to export buyers may find that they need access to fax services and efficient postal and messaging services (which increasingly depend upon ICT support) to stay in contact with their buyers, suppliers, and other members of their business networks.

These firms are a potential source of demand for e-mail services, computer training, information services, and, eventually, electronic commerce services as the Internet expands in developing countries.

In the near term, however, the most significant benefits to MSEs from ICT developments will come from improved access to low-cost and reliable telephone services for voice and fax communications and message services. Better access to basic communication services enables MSEs to compare prices or terms from different buyers; to develop a broader network of business contacts; to source information on markets, supplies, and technology from a wider area; and to link with other businesses for mutual advantage. With these basic services, MSEs can improve their performance and competitiveness while also positioning themselves to take advantage of more specialized information services as the communication infrastructure expands and prices fall.

The rapid growth of wireless telecommunication services in many developing country indicates that lower income rural and urban communities can be

> **Vodacom**, a South African cellular provider, presented two hundred cellular telephones to the Durban and Coastal Community Chest to the social workers of their various agencies. Nokuthulu Dube, a community chest coordinator, established the Siyazama—"We Are Trying"—Women's Club where 20 women are employed full time in making candles, menthol creams and home sewn garments. In the upper echelons of the business world, telecommunications is an essential marketing tool. For Siyazama, it had been previously difficult to communicate with suppliers, and Nokuthulu would travel twenty kilometers every week to corporate offices in Inanda to collect messages left for her. Needless to say, since Vodacom's contribution, the project came to be better maintained, the Club's goods can be effectively marketed.…[I]t is no longer necessary for orders to come in late or be left as the Vodacom public cellular phone is always at hand. Thus not only the club members benefit but the entire community does, as people come to make their calls from the Club's public cellular phone (E-Voda World, Sept. 1997).

good customers for ICT-based services. The MSE sector, in particular, is a market segment that should become increasingly attractive to suppliers of telecommunications and other ICT-based services. The principal issue is how to develop business models that are suited to the needs of MSEs and other lower income customers and that are financially sustainable. A discussion of this issue follows.

CHAPTER THREE
SUPPLYING COMMUNICATION AND
INFORMATION SERVICES TO MSES

Until recently, there have been two key barriers to increased use of ICT services by MSEs: *affordability* and *lack of access*. MSEs and other low-income customers could generally not afford the high costs of telecommunication services. Consequently, services were allocated to other higher income users. As a result of fairly recent technology developments, the costs of providing services to previously underserved communities have begun to drop significantly, making it feasible for telecommunication suppliers to reduce prices to consumers. Moreover, in countries that have opted to privatize and deregulate their telecommunications sectors, new private sector investments and increased competition have motivated telecommunications suppliers to lower costs to consumers to gain or maintain market share. As a consequence, telecommunications infrastructure is being extended to previously underserved communities, access is improving, and services are becoming more affordable.[6]

Telecommunications companies that are granted licenses to install new wireless or conventional telecommunications services in a particular country often face conflicting demands. On one hand, they are frequently required, under the universal services provisions of their licenses, to ensure that a certain number of lines are made available to customers in underserved communities (including rural areas and low-income urban communities). By agreeing to these provisions, they gain the right to sell services to other, more lucrative market segments. The challenge that telecommunications companies frequently face is to develop business models that allow them to supply services to rural areas and other underserved communities (thereby satisfying their universal service obligations) without losing money.

Telecommunications suppliers in several countries have come up with business models that appear to be capable of meeting these two objectives—providing basic telecommunications access to previously underserved communities and operating profitably. Several of these business models not only offer a means of supplying telecommunications services to MSEs, but they also appear to offer a *potential* means of providing other types of services—such as business development services, educational services, and postal services—on a financially sustainable basis.

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[6] Registered demand for telephone service continues to exceed supply, but the number of people waiting for a telephone line is falling: 42 million in 1996, down from a peak of 47 million in 1992. (World Telecommunications Development Report, Universal Access, ITU, May 1998.)

THE SEARCH FOR VIABLE BUSINESS MODELS FOR SUPPLYING ICT SERVICES

Some recent business models show varying degrees of promise in serving MSEs and low-income customers in developing country environments with reliable and affordable ICT services. These models include:

- Phone shops;
- Telecenters;
- Postal centers (technology-enabled); and
- Business information centers or networks.

Although these business models share a number of common elements and objectives, they differ in several key areas, including customer base, service mix, technology and skills base, and requirements for public subsidies. This section briefly describes these four business models against these characteristics. It also examines the current ability of the different models to satisfy MSE needs for basic communication services and their future potential to deliver more specialized business development services such as tailored training or business advice and information.

This descriptive analysis of the different models is prefaced by two caveats: the first is that the primary concern of the organizations involved in promoting these models (including private entrepreneurs, donor organizations, and government agencies) has not been to serve the specific needs of micro and small enterprises. These types of business models have been designed to serve a range of clients, of which MSEs are only one client group. A second caveat is that the amount of actual, on-the-ground experience with the different models varies considerably. Phone shops—providers of basic phone service—have already reached the franchiseable stage and are being developed on a commercial basis in many countries. The other models, by comparison, have not progressed much beyond the experimental or pilot stage of offering services. They require technologies, such as computers and Internet access, that may not be readily available in many developing countries. Consequently, comparative data on operating characteristics of these emerging models are more limited, and the conclusions that can be drawn from this desk review are more speculative.

PHONE SHOPS

In a number of countries, there has been a rapid growth of phone shops[7] which provide public phone and fax services to regions that lacked basic telephone access. Phone shop franchises have been started in a number of countries. India, for example, has more than 10,000 telephone shops, called Teleports, located in small towns and rural areas throughout the country. In Senegal, the national telecommunications operator, Sonatel, has franchised over 1,000 phone shops or telecenters. In South Africa, Vodacom, a supplier of cellular phone services, has developed over 375 PhoneShops, operated by 250 franchisees, in the past three

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[7] Phone shops are also referred to as telecommunication shops, telephone shops, public call offices, teleports, telecenters and by local names such as phone spazas (in South Africa) or Wartels (in Indonesia). In this paper, we will refer to them as telephone shops or phone shops.

years. Indonesia is another country that has seen a rapid development of rural telecommunications centers, known locally as Warung Telekomunikasi or Wartels. And, more recently, in Bangladesh, the Grameen Bank has set up Grameen Telecom as a means of bringing the information revolution to the rural people of Bangladesh. Grameen Telecom is planning, over the next four years, to provide cellular phone service to 100 million rural inhabitants in 68,000 villages of Bangladesh by (1) financing 60,000 members of Grameen Bank to provide village pay phone service and (2) providing direct phones to potential subscribers.

Services offered. Phone shops—whether fixed or mobile—offer, at a minimum, a basic set of services, including local and long-distance phone services. They may also offer additional services such as fax, photocopying, typing, check cashing, and wire transfers. Some have added the sale of merchandise or snack foods.

Customer base. Telephone shops appear to be an effective means of making basic phone services available to the general public in areas where users may not be able to afford the costs of individual lines or where the number of available lines is limited. The customer base includes residents of the local community in which the shop is located. A phone shop is not specifically limited to one set of customers but provides services to members of the local community as a whole, plus any travelers, visitors, or tourists who may be passing through.

> BayanTel, a Philippines-based diversified telecommunications company, offers storefront services through 300 public calling offices nationwide. The offices offer local, domestic long-distance, and international long-distance calling, domestic and international fax services, faxed message services, telegrams, and domestic and international money transfer. Anecdotal evidence also suggests that some offices provide an incoming message and fax service. [8]

Ownership and management. Governments and telecommunications companies around the world have experimented with various types of ownership and management structures for public-access telephone services. One model that appears to be particularly effective consists of individually owned retail shops operated under franchise agreements with the local telephone company. Under franchise arrangements, the telecommunications provider offers training, management support, and some financial assistance to local entrepreneurs who own and operate retail-level facilities. Besides Indonesia, the franchise model is used in the Philippines and South Africa to meet service targets as part of their universal service agreements.

> In Indonesia, retail telecommunications service shops are operated under franchise arrangements with PT Telekomunikas Indonesia (PT Telkom). Known locally as Wartels, the retail shops are typically owned by private entrepreneurs, although in some cases they are owned by and co-located with nongovernmental organizations such as cooperatives and student or religious groups. PT Telkom signs a two-year cooperation agreement with each Telkom shop owner that lays out the terms of the franchise arrangement, including service and performance standards, operating procedures, and other obligations of both parties. Under the franchise agreement, PT Telkom makes lines available, provides training, and sets up revenue-sharing arrangements. The Telkom shops pay installation and rental charges for each of the connected lines.

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[8] The Public Calling Office (PCO) model will be analyzed in a forthcoming MBP research paper on ICT uses and benefits for MSEs in the Philippines.

In Bangladesh, Grameen Telecom uses a different model. It makes loans to individuals to purchase cell phones and operate Village Pay Phone (VPP) services. This initiative aims to provide modern telecommunication services to millions of the poorest people of the world. Grameen Telecom finances village pay phones through selected member borrowers of Grameen Bank. The selected members purchase the phone (under the lease program of Grameen Bank) and make the telephone available to all users in the village, undertake short message services, and enable others to receive incoming calls. At a later stage, Grameen Telecom plans to make telefax, e-mail, and other value-added services available to its VPP operators. Over the next few years, VPP is expected to become the largest wireless pay phone project in the world.[9]

Skill requirements. The skills needed to manage and operate a phone shop successfully are basic. The owner/manager and the few staff that may be needed should have good retail sales and customer relation skills but do not need specific technical skills.

Financial requirements. Financial data on phone shop operations are not readily available. What is presented below are best guesses of the start-up costs and revenues for phone shop operations pieced together from a variety of published and unpublished reports and on-line sources.

   Start-up costs. Table 2 estimates that it costs $10,000 (or $2,500 per line) to start-up a Vodacom phone shop franchise in Southern Africa with a minimum of 5 lines. The start-up costs per line for a Wartel phone shop franchise in Indonesia range from $1,500 to $3,500 per line, depending upon types of equipment, furniture, and fixtures installed. For a five-line center, comparable to the South African example above, the costs in Indonesia would range from $7,500 to $17,500.[10]

Table 2: Start-up Costs for a Typical Phone Shop
(with fax and basic photocopying services)

Item	Number	Cost	Total
Equipment costs			
Phone sets	5	$150	$750
Furniture	5	200	1,000
Bureau meters	5	400	2,000
Fax machine	1	400	400
Copy machine	1	1,200	1,200
Cash register	1	400	400
20' container modification			3,000
Line installation costs	5	55	275
Miscellaneous start-up costs			1,000
Total start-up costs			$10,000

Assumptions:
1. Telephone company supplies lines and external connections.
2. Land and shipping container (or store facility) provided on a rental basis.

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[9]   Grameen Telcom. Press release (http://www.citechco.net/grameen/telecom/)
[10] Pradhan and Smith, op.cit.

Revenues. Tables 3 and 4 summarize revenue data from phone shop franchises in South Africa and Indonesia. The gross revenues range from $150 to $183 per line per month.

**Table 3: Estimated Revenues from Vodacom PhoneShops in
South Africa**[11]

Revenues—Call Services	Local Calls	Long Distance	Total Revenue
Rate/Minute	$0.12	$0.60	
Avg. Line Usage—Minutes/Day	120	10	
Total Daily Revenue/Line	14	6	
Telecommunication Shop Commission—(30%)	4.32	1.8	
Monthly Income/Line	129.6	54	
Monthly Income—5 Lines	648	270	
Gross Annual Income for 5 Lines	$7,776	$3,240	$11,016

Table 4: Estimated Revenues from Telecommunications Service Shops in Indonesia[12]

Revenues—Call Services	Local Calls	Long Distance	Total Revenue
Average Gross Annual Revenue Per Line			$9,000
Estimated Revenue—Domestic Calls (90%)	8,100		
Shop Commission—Domestic Calls (20%)	1,620		1,620
Estimated Revenue—Int'l Calls (10%)		900	
Telecommunication Shop Commission—Int'l Calls (7.5%)		66	66
Total Annual Gross Income/Line			1,688
Gross Annual Income for 5 Lines			$8,440

Phone shops and MSE development. Phone shops are important to MSEs for at least three reasons:

- Phone shops help provide convenient, affordable access. Phone shops are an important means of making basic communication services available to users who cannot afford the costs of private lines or cellular phone service. By sharing the costs of facilities, communities and individuals have access to basic services that they otherwise would not have.

- Phone shops lay the foundation for additional, value-added services. In addition to basic phone and fax services, phone shops give local communities a means of accessing new types of information and communication services as they become available. For example, in Senegal, some of the local phone shops have begun to offer e-mail and Internet access. In Swaziland, phone shop franchises have begun to offer other types of products and

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[11]   Source: Vodacom Website (http://www.vodacom.com).
[12]   Pradhan and Smith, op.cit.

services to customers, ranging from basic consumer products to postal delivery, money

the more comprehensive or specialized services offered by full-fledged telecenters,

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Africa, Indonesia, and several other countries suggest privately managed phone shops can
be viable, profitable businesses.   Moreover, the capital and management requirements of

small enterprises and, in some cases, microentrepreneurs.   Sales of telephone cards for
[15]

MULTIPURPOSE COMMUNITY TELECENTERS

Community-based
groups, and private-sector organizations to provide
telecommunication facilities, user support, and training for members of a community (usually
remote and isolated) who cannot afford such facilities individually or do not have the skills to
[16]

beginning initially in the Scandinavian countries and spreading from there to Scotland,
Wales, Canada, Australia, and Brazil.

names, including telecottages,   telecenters (MCTs),
teleports. Many of these different forms have been
developed to serve specialized needs in particular countries. For example, in the
telecenters were developed mainly
to promote   telecenters have been developed
mainly to support telecommuters, with the aim of reducing commuting time and highway

In developing countries, however, the principal focus of multipurpose community centers has
been to provide a means of providing rural or poor communities with access to the benefits of

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See Johan Ernberg, "Universal Access Through Multipurpose Community Telecenters—A Bus
Unpublished paper presented at Global Knowledge Conference, Toronto, 1997.
[14] Although the capital requirements of most phone shop operations may put them into the small business
category rather than the microenterprise category, the Grameen program in Bangladesh offering mobile

[15]

United States. In addition, there are a variety of multilevel marketing schemes that engage home-based
workers in selling discount long-distance services and calling cards.
Ernberg, Johan. "Empowering Communities in the Information Society: An International Perspective."
Geneva, Switzerland: International Telecommunication Union, 1997.

Services offered. Telecenters can provide the basic set of telecommunications services offered by telephone shops, plus a number of additional services that rely on computers and Internet communication capabilities. The Acacia program, funded by the International Development Research Council of Canada, provides the following examples of telecenter services:

> Such services might include basic communication such as voice, fax, e-mail, Internet access, etc.; public and quasi-public sector services such as telemedicine, distance education, municipal governance services, etc.; and private sector services like news distribution, telecommuting services, training, access to information on markets, crops and weather conditions, and much more. [17]

For MSE clients, telecenters potentially could offer:

- E-mail services;

- Computer training;

- Internet-based information services (market information, information on suppliers and technology, access to government information sources);

- Support to help develop e-commerce initiatives; and

- Access to distance education/training/advisory services.

Community-based telecenters in developing countries are still at a fairly early level of development. At present, most developing country telecenters are only equipped to offer basic communications and training services. Local capacity to provide value-added information and advisory services is extremely limited. Moreover, the systems resources needed to support such services (appropriately packaged information and training resources, available in local languages) are generally not available.

Customer focus. Multipurpose community telecenters, by their basic nature, are intended to serve a range of clients at the community level. Potential clients, however, can be divided into two basic groups. The first group, composed of individual or retail clients, includes owners of micro and small business concerns who need various types of business services; farmers who might be interested in information on new crop varieties, market prices, sources of supply, and weather reports; household members interested in training or educational services; health-care workers seeking medical information; teachers looking for educational resources; and, local government officials who may need to use the center's communication and information services. The second group includes institutional clients, such as MSE

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[17] See the Acacia Web site, http://idrc.ca/acacia. The Acacia Initiative has been designed and is being led by Canada's International Development Research Centre. Its main objective is to help African countries participate in the benefits of new information and communication technologies.

organizations.

Ownership and management. Telecenters have been operated under several different organizational formats. Many of the early
and Australia were established with public-sector funding through various types of grants or project funds and run as community (nonprofit) programs. Others have been operated as

privately operated telephone shops.

Skill requirements. Telecenters require staff who are familiar with a wider range of technology applications than phone shop operators. In addition to providing the basic set of

copying services—telecenter operations require staff who are trained in basic computer

techniques, of basic Web site maintenance, computer training, and perhaps more advanced functions such as Internet telephone and video conferencing.

telecenter operations. Most
public funds for at least their start-up costs. Others have received support for operational costs as well. Such publicly funded
financial standpoint. A survey of European telecenters conducted in 1994, for example,
telecenters failed within the first two
to three years of operation. Those that did survive required about five years to achieve
[18]

In the past few years, there has been growing support for establishing
commercial ventures, along the lines of phone shop franchises. Since many telecenters have,

managed telecenter franchises could be considered a logical next step in the evolution of
Chasia, Deputy
Secretary-General of the International Telecommunication Union, noted in a recent speech:

> MCTs there is no scarcity of skeptics
> about the commercial viability of this initiative in developing nations

> national, regional and global markets. Traditionally services to rural or low
> income areas have been labeled as unprofitable. However, a number of studies

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Qvortrup, Lars. "Community Teleservice Centres Around the World." Qvortrup reports that the majority of

was either public (53 percent) or mixed public and private (30 percent). In 1992, 52 percent were receiving mixed public or private finance. See also http://www.csu.edu.au/research/crsr/sai/community.htm.

technologies and services—are showing that MCTs have considerable potential to turn into profitable and attractive businesses.[19]

As Dr. Chasia notes, service facilities supplying basic telecommunication services—that is, phone shop operations—appear to offer the best potential for becoming profitable business operations. As we have seen in the previous section, phone shops in some countries already appear to be moderately profitable. As telecommunication costs continue to drop, such facilities may be able to operate profitably in a wider range of countries and communities.

The financial viability of telecenters, on the other hand, has not yet been demonstrated. Given the current level of Internet development in many developing countries, the costs of Internet access, the lack of information and services suitable for local needs, and customers who are not familiar with the use of computer-based technologies, it is understandable that the market for services to retail clients is still fairly limited. In the near term, Internet-based information and communication services may be more relevant to the needs of institutional clients, such as networks of small business support organizations or business associations.

Telecenters and MSE development. The current market for the kinds of Internet-based information and communication services that a telecenter can provide to MSEs is fairly limited. Extensive efforts are needed to develop the information content and service packages that are useful to MSEs in particular countries. Educational efforts are needed to acquaint MSEs with the use of computer-based communications and information services. Costs of services need to decline further to make Internet use attractive for the majority of MSE owners. Moreover, bandwidth limitations and poor service quality need to be overcome, particularly for users outside the larger metropolitan centers. On the other hand, telecenters appear to offer a promising institutional mechanism for supplying the communications utilities, information content, and services needed by networks of MSE support organizations to enable them to provide better services to their MSE clients or membership.

EMERGING POSTAL CENTER MODELS

Reliable postal service is another core service that micro and small enterprises need to carry out business efficiently. Firms, large and small, need to be able to send and receive mail, small packages, business documents, publications, and promotional materials. Unreliable postal service constrains the growth of business enterprises just as does a lack of access to telecommunications facilities, efficient transportation facilities, or other means of communication.

Over the past decade, some developments have prompted a rethinking of how postal services can be provided more efficiently. The expansion of private package delivery and express mail services (UPS, FedEx, DHL, etc.) has provided business and household customers in

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[19] Chasia, Henry. "Innovative Options for Rural Telecommunications." Speech given at ITELEVENT '97, Budapest, September 1997. See also http://www.itu.int/chasia/speeches/1997/intelv97.html.

small businesses in countries where these systems are well developed, these types of package delivery services are numbered among the essential services that firms rely upon to deliver

and e-mail services as an alternative to traditional *snail mail*
Moreover, private postal centers, such as PostNet and Parcel Plus, have developed franchise

another source of competition for government postal services.

Frequently, these newer services have been considerably ahead of public sector postal

the Web-based tracking systems employed by UPS and FedEx that allow customers to track packages from shipment to delivery). They have also been more innovative in introducing

These newer types of postal and package delivery services are no longer limited to the more developed countries. Parcel delivery services such as UPS, FedEx, and DHL operate globally
PostNet, are
expanding internationally. Local franchises are being established throughout Asia, Middle
PostNet offers an alternative
mail service in addition to its other postal center services.

customers in developing countries at present, they offer interesting models for new types of technology-enabled postal services that could begin replacing (or prompting the reform of)

services to MSEs in the 21st

Services offered. Although those in development circles are increasingly interested in

new systems would operate and the types of services they would offer are still in the early stages. One alternative would be to build on phone shop facilities and license particular units

areas that are not covered by government postal facilities. This minimalist approach would include upgrading designated phone centers to enable them to provide a basic package of

include:

- Fax services at standardized rates (receipt, local delivery, and transmission);

- E-mail (receiving, printing, and local delivery of incoming messages plus typing and transmission of outgoing messages);

  Voice-mail messages;

  Mail box rentals; and

- Shipping and receiving facilities for parcel delivery, express mail, and domestic courier services.

Another alternative would be to upgrade existing post offices facilities so that they could provide a set of technology-enabled services, in addition to their current services (fax, e-mail, voice mail, and perhaps new communication and information services). A third alternative might be to encourage local entrepreneurs who have master licenses for postal center franchises to develop scaled-back business service models suitable to the needs of the domestic mass market, including customers in rural areas, smaller towns, and low-income urban areas.

For example, PostNet, which has been one of the more active international franchise operations, offers a mix of postal, courier, business, and communication and ancillary retail services in its South African operations, as illustrated in Table 5. The exact mix of services that franchise operators might be willing and able to offer in smaller or lower income markets is not known at the present time. However, given the rapid spread of such facilities in countries like South Africa and the Philippines, such information may be available in the not-too-distant future.

Table 5: Services Offered by PostNet Centers in South Africa

Postal Services	Courier Services
- Mail Box Rentals - Postage Stamps - Postal Services - PostWorld (int'l e-mail services)	- Local - Domestic/National - International - PostNet to PostNet
Business and Communication Services	**Ancillary Retail Services**
- Printing - Photocopying - Laminating - Binding - Fax - Telephones - Rubber Stamps - Internet Services	- Packaging - Convenience Items - Stationery - Cards

Customer focus. A technology-enabled postal center could combine both a standardized set of basic postal services serving a broad area-based market with more specialized focus on business customers.

Ownership and management. The growth of private package delivery services, postal centers, and technology-enabled communications such as e-mail and voice mail indicate that governments likely will not be providing postal services exclusively in the next century, regardless of the pace of privatization efforts. Most likely, postal services and facilities will be owned and operated by a number of groups—governments, local cooperatives, large corporations, and individual entrepreneurs. Deregulation will inevitably lead to public–

private partnerships as well as public–private competition. New ownership and management

of postal services. Convergence of technologies will produce new combinations of services, new combinations of service providers, and new patterns of ownership and management.

Basic skills are required to manage the core postal services; however, more specialized staff skills would be needed to search and retrieve specialized information

Financial requirements. The start-up costs for various types of postal center operations will telecenter operations. Operating costs should also be quite similar. Revenue data are not available from current published or

is needed to clarify the financial requirements and potential of such operations.

Postal services and MSE development.
means of providing ICT-enabled services to micro and small enterprises. They have an advantage over some of the other models since they can build upon existing demand and

services can be added incrementally so that customers are not overwhelmed or offered services they do not understand or know how to use. Moreover, some systems resources

mail) can be easily incorporated into new service packages.

For MSEs seeking to expand their markets and supply networks, access to facilities that

electronic commerce expands, smaller enterprises will require more reliable and efficient ways of dealing with their customers and suppliers to take advantage of business-to-business

postal systems capable of handling the flow of both physical and electronic products will be one of the important lifelines for small firms in the 21st century.

BUSINESS INFORMATION AND COMMUNICATION CENTERS (BICCS)

in which demand from specialized client groups is already strong, it may be possible to operate more specialized information and telecommunications services on a sustainable

centers and virtual centers) have been developed in recent years, in a number of countries,

that make use of new ICTs to provide specialized information and communication services to business clients, including smaller enterprises.[20]

Two categories of business centers are considered here. One category includes facilities-based centers that provide information and communications, along with other business services, to clients from small and medium-sized firms. Some of these types of centers, referred to as business information and communication centers (BICCs), offer services that are useful to microenterprises, although MSEs are not their principal client group. A second category includes a number of virtual centers or resource networks that are being developed to offer various types of information and communication services to their clients through business associations or support organizations.

Services offered. BICCs may offer services that are similar to those offered by phone shops, telecenters, and postal centers but that are geared to the needs of a more select clientele. For example, BICCs may offer business clients the same services listed above for the other types of service organizations, including:

- Local and long-distance phone services;
- Fax services;
- E-mail;
- Business registrations;
- Market and supplier information;
- Access to publications, training materials, and specialized databases;
- Access to government information and services;
- Postal facilities (mail box, package delivery, and express mail);
- Photocopying and binding services;
- Access to computers and printers; and,
- Secretarial and translation services.

In addition to these services, some types of BICCs might offer temporary office space, warehouse facilities, meeting rooms or conference facilities, fulfillment services, cargo or shipping services, business supplies, check-cashing facilities, and referrals to other service providers such as bookkeeping and legal services.

Virtual centers or on-line resource networks focus on providing on-line information and communication services. They provide virtual or remote services in contrast to the more personal, hands-on services provided by BICCs. The information services or distance learning services that BIC networks offer are part of the key systems resources that BICCs need to be able to draw upon to provide value-added information or training services to their clients.

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[20] Some of the names that have been given to different types of support facilities include business centers, business service centers, business information centers, business communication centers, teleports, technology centers, and business information and communication centers. In addition, there are other types of support facilities such as business incubators, technology incubators, and business development centers that focus on providing start-up support, training, financial assistance, or physical facilities to new enterprises.

Customer focus. A principal difference between BICCs and the other models—phone shops, telecenters and postal centers—lies in their customer focus. BICCs typically serve a much narrower client base than other types of facilities. Their services are usually tailored to the needs of particular types of business clients, primarily medium and small firms, rather than to the diverse needs of a local community or various types of institutional clients. Consequently, BICCs need to offer higher priced services with better margins to recoup their higher operating costs. Consequently, they are generally unable to focus on serving microenterprise clients exclusively or even mainly, since they need to cultivate clients who can pay relatively higher rates for services.[21]

Ownership and management. BICCs have been set up under a number of different ownership and operating arrangements. Frequently, these centers were set up under the auspices of various types of local nongovernmental organizations (NGOs), including business associations, private voluntary organizations (PVOs) involved in microenterprise assistance efforts, and development organizations, or by foreign NGOs. In most cases, donor organizations or governments provided financial support through grant or contract funding. In some cases, private entrepreneurs set up BICCs as for-profit ventures. Private ventures tend to offer specialized products for specific customers versus the more typical *one-stop service* model of the BICCs. Occasionally, they have been supported by corporate small business development offices or government agencies.

BIC resource networks are being developed by consulting firms, PVOs, small business foundations, corporate business development offices, publishers, business information firms, and government agencies. Only a small percentage of existing small business information resource networks are focussing on the development of content suitable to the needs of MSEs in developing countries.

Skill requirements. The skills required cover a broad range of services—from administrative to specialized training and information. Of the different service models, the BICC demands the most advanced skills in information collection and retrieval because they would be tailored to the specific needs of business clients.

Financial requirements. Start-up costs and operating expenses for most varieties of BICCs are roughly comparable to those of similar telecenter facilities. The principal difference would be facility, equipment, and operating costs associated with providing temporary offices to clients.

BICCs and MSE development. Business centers tend to serve the needs of small and medium firms rather than microenterprises. Recent evaluations of business centers in the New Independent States show that when the centers are pushed to meet commercial goals, they focus their services on customers who have the willingness and capacity to pay more for the services available from these centers. The findings tend to support the conclusion that the *one-stop shop* business center model will find it difficult to serve microenterprise clients

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[21] The issues of business center financial viability and SME client focus are examined in two forthcoming MBP studies—one examines three business centers in the Ukraine set up to serve SME and the other is a case study on the Laguna SME Service Center in the Philippines.

without some form of public subsidy. The more appropriate role for BICCs and other types of business resource networks may be to provide systems resources (specialized information and training resources adapted to the needs of MSEs) that could be distributed through other types of facilities, such as postal centers or multipurpose community telecenters.

SUMMARY AND CONCLUSIONS

Table 6 summarizes some of the principal characteristics of the four business models reviewed above. The table shows similarities and differences in their customer focus and service mix and the basic business concept driving each model. The four models may offer a way to supply different combinations of communications and information services that MSEs need. After a comparison of the features of the different models, however, some interesting questions arise regarding their ability, now and in the future, to supply such services to MSEs in a cost-effective, sustainable manner.

Current Best Prospects for Supplying Communications and Information Services to MSEs

Phone Shops. The operations of phone shops in several countries demonstrate that new technologies are making it possible to provide members of lower income communities—including MSEs—with plain old telephone services (POTS) on a commercially viable basis.

The evidence reviewed in this desk study demonstrates that there are clear needs and growing demand among MSEs for basic telecommunication services such as local and long-distance phone and fax services. Phone shops provide one means of making such services available to MSEs and other lower income customers who are unable to afford the costs of individual services.

Telecommunications suppliers in several countries have developed franchise models for establishing phone shops as a means of supplying basic telecommunications services to household and business customers in rural areas and lower income urban communities. Existing evidence suggests that properly managed phone shop operations can be operated on a commercially viable basis in a variety of country and local market environments, ranging from South Africa to Bangladesh.

The operating requirements for phone shops are fairly basic. Initial capital outlays are modest, particularly when telecommunications suppliers are willing to offer leasing arrangements for telecommunications equipment to their franchisees. Training requirements for managers and staff in the use of particular types of equipment are fairly simple and can be met at little cost by equipment suppliers. Moreover, because customers require minimal training to understand and use basic phone shops services, promotional expenses are generally quite low.

Table 6: Characteristics of ICT Business Models

Attributes	Phone Shops	MCTs	Postal Centers	BICCs
Customers	Broad appeal to multiple segments of individuals (local community, tourists, transport workers, businesses).	Responsive to broad needs of both individual retail customers and public and civic institutions (business, health, education).	Broad appeal to members of local community; tourists; other visitors.	Targeted to small and medium business segments.
Services	Local and long-distance phone services, fax, copying, and messaging services.	Telecommunication services; e-mail access; general information services; computer training.	E-mail services; mail & package delivery; access to government information services, forms, etc.; packaging materials; copying/printing services.	Telecommunication services (phone, fax, and e-mail); secretarial services (typing, copying, administrative support); computer rentals & training; access to specialized business information.
Business Concept	Standardized set of high-volume, low-margin services.	Mix of high-volume, low-margin services with lower volume and higher margin information and training.	Standardized set of high-volume, low-margin services.	Low volume, higher margin; services tailored to needs of particular clients.
Business Models and Ownership Structures	Private sector; corporate with franchise network.	Private/public; community owned.	Private sector; corporate with franchise network.	NGO or association member-based nonprofit with fee-paying services.
Required System or Network Support	Telecommunication providers (wired and wireless).	Telecommunication providers; Internet service providers; specialized information services.	Telecommunication; ISP; public postal system; private package delivery services; government information systems; other information services.	Telecommunication; ISP; specialized business information service suppliers.
Facilities	Phone lines, phone sets, and retail facilities to serve general public.	Phone lines; computers; Internet access; public access.	Phone lines; Internet access; some computer information kiosk facilities.	Communication facilities; computers; access to specialized information services; space suitable for business clients.
Management and Staff Skills	Managed by nontechnical owner/operator with a few unskilled staff.	Basic skills related to telecom; more specialized skills related to computer use; information retrieval.	Basic skills required for basic services; new skills related to information search and retrieval techniques.	Basic administration, secretarial skills; computer training skills; more advanced information search and research skills.

As a result of technological developments and deregulation of telecommunications markets, telecommunications suppliers are rapidly extending basic communication infrastructure to areas of the world that previously enjoyed limited access or no access to telecommunications services. Costs of providing services to formerly underserved areas are falling rapidly, making it more attractive for telecommunications suppliers to focus on rural areas and lower income urban communities. In the near term, phone shops appear to offer a useful means of serving customers in these markets.

POTS plus. Business models that start basic do not necessarily stay that way. This study found that where telecommunications suppliers have set up networks of retail phone shop outlets, phone shop operators are already beginning to offer add-on services—photocopying, fax services, and message services—to meet customer demands. Occasionally, telecommunications services are offered in conjunction with product sales—convenience goods such as soft drinks, snack foods, and cigarettes as well as new products such as smart cards for long-distance calls. In other cases, phone shop services are being offered as an add-on set of services by an established business (such as a food market, cafe, or other type of retail establishment). Add-on services require only marginal investments for equipment, additional facilities, or staff training. Aside from occasional repair services for fax and photocopying equipment, POTS plus services require no additional outside systems support other than that provided by the telecommunications network company.

Although this service mix is still basic, the POTS plus business model offers a starting point for phone shops to evolve into more complex service facilities able to provide an expanded array of services to small business and household customers. By adding on incoming fax service, for example, a phone shop becomes a de facto message center. From here it is a small step to serve as a center for the receipt of express mail packages, letters, wire money transfers, or other communications functions. Analyzing the operations of phone shops offering add-on (POTS plus) services, therefore, provides a window for understanding their potential for supplying additional types of services valued by MSEs on a commercially viable basis.

Emerging Models for Providing ICT-Based Services to MSEs

Emerging telecenter models (including MCTs, postal centers, and business centers) differ in several key aspects from phone shops. The most important differences lie in the range of services offered and the types of network or systems support that service suppliers require to offer the expanded set of services.

Emerging telecenter models are attempting to provide members of underserved communities with access to a variety of new information and communication services. Multipurpose community centers are being designed to provide members of rural and lower income communities with access to the information superhighway to enable them to benefit from new developments in distance learning, telemedicine, distance agricultural extension services, small business development services, and improved access to government information sources and services. Moreover, telecenter programs are attempting to find ways

to use communications tools such as e-mail, Internet, and telephone and video-conferencing to connect local communities to developments elsewhere in the world.

Although the potential of such applications is great, in the near term there appears to be a number of impediments that need to be overcome for such models to supply services to local communities or particular client groups, such as MSEs, cost-effectively. In addition to basic telecommunications facilities, telecenters (including postal center and business center varieties) require reasonably priced access to Internet services (that is, local dial-up access). They also require computers and staff trained to use them. Moreover, to offer useful information services to their customers, including MSEs, these centers will need access to specialized information content and services that are suited to the needs of their clients. Although a growing array of information is available on the Internet that is relevant to the needs of MSEs (or other client groups such as small farmers, educators, health care workers and households), the content is not yet packaged to suit local customer needs.

In addition to developing the capacity to deliver new information and communication services to members of local communities, telecenter operators need to determine what types of services customers really need, what they are willing to pay for, and how services can be provided on a financially sustainable basis. Unlike the more simple phone shop models, a workable business model for telecenter operations has not yet been worked out. Additional market research and business case studies are needed to determine how best to develop workable models for MCTs, technology-enabled postal centers, and business information centers that serve small firms.

CHAPTER FOUR
MBP RESEARCH PRIORITIES
AND RECOMMENDED RESEARCH ACTIVITIES

The previous sections of this report provided an initial assessment of how ICT developments are affecting MSEs. The report looked at the MSE customer and examined the current uses and benefits of basic communication and information services. It looked at ICT suppliers and examined the effectiveness and viability of different service delivery models in supplying telecommunications and other business services to MSEs. This review found growing evidence of private sector delivery of basic communication and related add-on services; however, the evidence was far less clear on both MSE demand and the capacity of these channels to deliver—using the power of the Internet—more specialized and value-added information products and services. The information used to support these findings was based mostly on anecdotal information, leaving large gaps in our understanding of key issues affecting the more effective use of ICT applications and services for MSE development. This chapter summarizes our findings by these key issues and lists related research questions.

SUMMARY OF ISSUES AND RESEARCH QUESTIONS

How Can Public Policy Initiatives Increase Access of The ICT Infrastructure And Services to Lower Income Groups?

Technology developments, combined with policy and regulatory reforms, are making it commercially feasible for telecommunications suppliers and investors to extend ICT infrastructure to previously underserved markets. Such markets include developing countries in general, and underserved communities or areas within these countries in particular. Policy and regulatory reform efforts, coupled with privatization of state-run telecommunications companies, are making investments in information technology infrastructure in developing countries much more attractive to foreign and domestic investors and telecommunications companies. Particular policies, such as those that encourage universal service, are often employed to encourage telecommunications investments in rural areas and other underserved communities such as small towns and lower income urban neighborhoods.

Research Questions:

- How are new technology developments likely to affect the provision of ICT infrastructure in developing countries?

- How can policy and regulatory reform initiatives best support the development of ICT infrastructure in developing countries?

- Are there *best practices* with respect to telecommunications policy and regulatory reform efforts that developing countries can emulate?

- How can governments best encourage private sector investment in ICT infrastructure, particularly infrastructure that is accessible by lower income consumers?

- How are existing policies and regulations affecting the supply of services to the communities in which MSEs reside, the array of services offered, pricing of services, and attitudes of suppliers in extending services to poorer communities?

What Are The Mix of Communication and Information Products and Services Micro and Small Businesses Value and How Will This Mix Change Over Time?

As telecommunications companies expand into new segments of developing country markets (such as rural areas or lower income urban communities), they need reliable information to help assess current and future demand by different groups of ICT users and combinations of ICT services. Among other things, telecommunications suppliers need to determine who are likely to be their best customers in the near term, the characteristics of these and other potential customer groups, the types of services they are capable of paying for right away and in the longer term, and the growth potential of different customer groups. This paper found growing evidence that there is a fairly robust demand for basic telecommunication services in rural areas and poorer urban communities where the bulk of microentrepreneurs reside. Much less is known about the potential demand for other types of ICT-related services by MSE customers.

Research Questions:

- What types of needs do MSEs and lower income households have for basic telecommunications services and other value-added information and communication services?

- What types of services do they need first?

- What are they willing and able to pay for at present?

- How is the demand for different types of ICT-related services likely to change over time?

What Delivery Channels and Service Combinations Are Most Likely to Be Financially Sustainable?

There is growing evidence indicating that new types of service models, such as phone shop franchises, are capable of supplying basic telephone services to poorer communities on a commercially viable basis. Less well understood is the nature of current or potential demand

for value-added information services among MSE clients or the business strategies necessary for delivering such services effectively to such firms.

Research Questions:

- What business models offer the best prospects for delivering basic telecommunications services to MSE clients on a commercially sustainable basis?

- What are the optimal combinations of services that different types of business models can provide to MSE customers?

- What types of business development strategies are likely to increase the chances of success for different types of ICT service suppliers?

- What are the characteristics of *best practices* with respect to the ownership, management, and service delivery functions of business models engaged in supplying ICT services to MSE clients?

- How should subsidies be used (if at all) to improve the supply of ICT services to MSEs?

How Can More Complex or Specialized Information and Business Services Be Supplied to MSEs Using ICT Applications?

Once services have been developed that enable MSEs to access basic telecommunications and computer services, the next stage is to develop various types of specialized ICT-based business services that can be delivered to MSE clients on a sustainable basis. In some countries, phone shops franchisers are beginning to add computer and Internet capabilities. As they do, they are experimenting with new types of service organizations that are capable of delivering a wider array of ICT services, such as advanced communications, training, and specialized information.

Research Questions:

- How can ICT-based business services, such as marketing support, market research services, procurement support, training services, and information services be supplied most effectively?

- Can these types of more specialized, value-added services be supplied to MSEs on a commercially viable basis, or do they require initial or ongoing subsidies?

- What types of business models and service packages make the most sense? Can these types of services be delivered through providers of basic communication services? Or are new delivery channels and business models required for these type of services?

- How are supply channels and business models for delivering ICT services to MSE customers likely to evolve over time?

How Does Increased Access To ICT-Based Services Affect The Business Operations of MSEs?

In addition to understanding ways to improve MSE access to basic ICT services, it would be useful to understand how MSEs are benefiting from increased use of such services. This would require a research approach that would help us gain a better understanding of the nature of changing patterns of MSE demands and use of services. It would require looking at what happens to MSEs when basic services first become available and, later, when small firms start using an expanded assortment of ICT services.

Research Questions:

- How does improved access to ICT infrastructure and services affect MSEs? Does it improve their growth potential?

- Are benefits that MSEs derive from improved ICT access commensurate with the costs required to make such infrastructure and services available?

- What types of benefits from improved ICT access accrue to individual firms? What types of benefits are produced that are shared by a wider public?

- How does the incidence of benefits affect funding strategies for ICT infrastructure and service development?

What Are The Emerging Business Opportunities for Mses As Suppliers and/or Supporters in The Rapidly Expanding ICT Sector in Developing Countries?

The rapidly expanding ICT sector in developing countries is a source of many new jobs and business opportunities. The report found growing evidence where large telecommunications companies are looking to the MSE sector to become a part of their expanding network of communication retailers. Ownership of a phone shop franchise is within the reach of smaller businesses because of modest start-up requirements and technical know-how. The Grameen Village Pay Phone Project is adding new economic activities by enabling members to sell phone time to their communities. The rapid expansion of cell phones compared with land lines is creating opportunities for cell phone agents and distributors. The use of smart cards and other ancillary services also create income opportunities for poor people.

Research Questions:

- What types of business opportunities and jobs are created by an expanding ICT sector?
- Can poorer people take advantage of these opportunities?

- What are the costs, benefits, and risks of these opportunities?
- Is there a role for donors to link poor people with these opportunities?

RECOMMENDED RESEARCH ACTIVITIES

This desk review informed the design of an MBP-sponsored research activity to systematically document and learn about access, uses, and benefits of basic and more value-added ICT-based business services, delivered to MSEs by both private and nonprofit service providers. The design of this research activity was also informed by an on-line survey of existing donor involvement on ICT for development (see Appendix I). This survey shows the range of donor interests (from connectivity to basic research) and positions this MBP research with those interested in economic, rural development, and MSE applications of ICT-based services.

Objective. The design attempts to fill key knowledge gaps by looking at both MSE demand for ICT-based services and the effectiveness of different business service models and providers to satisfy MSE service demands in one country setting.

Location. The Philippines was selected because it met MBP's criteria for this research activity:

- Its telecommunications industry is very competitive and has reached a sufficient level of development for the proposed research.

- Various government and nongovernmental efforts are under way to support the growth of the telecommunications industry and improved access for underserved communities to ICT services.

- MSEs in the Philippines are generally aware of basic ICT services although their access to higher value added services, such as Internet and email access, is still low.

- A sufficient number of different service models are in operation.

- The Philippines has a robust MSE community, and many MSEs depend on suppliers, buyers, or markets that are not within easy face-to-face contact.

- The Philippines economy is quite open, and MSEs can benefit from ICT services.

Methods. The research will utilize three methods to analyze the above key research issues:

1) Detailed case studies will be conducted on three ICT service providers. The first will look at both company-owned and franchised *public calling offices* of Bayantel International Communications Corporation. The second case will look at the *ICT-based services* (phone, fax, computer training, e-mail, and business licensing) of the Small and Medium Enterprise Service Center operated by the Laguna Chamber of Commerce and Industry in

cooperation with SwissContact. The third case will look at *cellphone providers* in rural markets. The case studies of the ICT service providers will include customer surveys and, where possible, a detailed analysis of the internal operations of the providers. All case studies will examine ancillary business opportunities for MSEs that have arisen from the rapid growth of this subsector. The case studies will document the current status of the service providers and also analyze the potential for each model to be commercially viable, to add higher value-added services over time, and to be a vehicle for spreading access to ICT services to more MSEs in the future. The analysis frameworks for both the case studies and the customer research are found in Appendix II.

2) The second method will be profiles of institutions that use Internet applications for the delivery of broad-based business services to micro, small, and medium enterprises. These are MSE support organizations that seek to provide a range of business development services to entrepreneurs. The research will examine networks of support organizations— such as local Chambers of Commerce—that seek to use the Internet as a tool to expand or improve the effectiveness of the network itself in providing services to its membership. The profiles will focus on how the Internet can be used to serve members by translating information into marketable services for its membership.

3) In conjunction with specific case studies, the research calls for the collection of additional information on the ICT industry, particularly on trends in competition and regulation that affect costs and revenues of various services and the effects on their customer reach and service mix. The information will also be used to suggest service mix models or institutional partnerships that have not yet been tried, which could profitably provide MSEs with the ICT services they demand.

CONCLUSION

The rapid spread of new communications and information technologies in developing countries is opening up a range of new possibilities for promoting economic growth. New technologies are also rapidly changing the nature of work and the structure of business organizations. Microenterprises, which are already a major source of employment in most developing countries, are likely to become even more important as technological change speeds the growth of new forms of outsourcing and telework. The spread and increased use of new technologies will give rise to profitable new business opportunities for smaller enterprises, as well as new business services to support their growth.

The various studies and reports examined as part of this review point to some of the exciting possibilities offered by new information and communication technologies—including business models that can deliver new services to MSEs on a sustainable basis. However, additional work is needed to understand how the benefits of new ICT applications can best be made available to MSEs and other low-income customers. This study has explored some of the promising service innovations that have been developed in the past three to four years and outlined some of the research tasks that are needed to explore fully the potential of these new modes of supplying ICT-based services to MSEs.

As a final note, a few bold predictions are proffered. The first concerns the future impact of ICTs on efforts to improve the supply of business development services to MSEs. The emergence of corporate franchise networks that are delivering basic telecommunications services to rural and low-income customers foretells new business models that eventually will provide a whole range of new, specialized information and communication services to MSEs and other formerly underserved customer groups. These types of business models will lead to the development of other types of specialized services that can be supplied on a commercial basis, at low cost, to MSE clients. These technologies will be the key to the effective provision of business development services to microenterprises and small businesses.

The second prediction is that new information and communication technologies not only will give rise to new, cost-effective services to support MSEs but also will provide a range of new business opportunities that MSEs can own, manage, and otherwise participate in. The telecommunications service centers provide an early model of such an opportunity. In the future, there will be a continual growth in new types of business services franchises, as well as franchise models that will allow MSEs to offer other types of ICT-based services in their local communities. These franchises will offer a range of services, including education, entertainment, healthcare, environmental services, and new services that have yet to be created. Other business models that offer opportunities for MSEs to link with larger suppliers, such as multilevel marketing schemes (akin to Amway, Nuskin, and Big Planet), will also flourish as the developing world moves into the information age. These business opportunities will provide the links between real people and the expanding world of electronic commerce. The net effect of these developments will be wholesale changes in the opportunity structures available to smaller enterprises and their owners of modest or limited means.

Future efforts to assist microenterprises should pay close attention to the impact of new ICTs or to the possibilities that such technologies offer for supplying various types of assistance. These new information and communication technologies make it possible to provide services that have been attempted in the past, but which lacked the means for effective delivery. New ICT applications, combined with new business models for delivering services, provide two powerful keys for transforming microenterprise development programs and enabling MSEs to participate fully in the dawning information age.

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APPENDIX I

DONOR INVOLVEMENT IN ICT FOR DEVELOPMENT

DONOR INVOLVEMENT IN ICT FOR DEVELOPMENT

International donor organizations have increased their support in recent years for initiatives that promote increased use of ICT-related services by the poor majority in developing countries. Some of these initiatives deal specifically with mechanisms for improving access by poor communities to information and communications infrastructure and services, such as efforts to develop telecenters, business centers, and learning centers. Other program initiatives are helping to establish the basic information and communications infrastructure. The following is a summary of selected donor initiatives promoting the use of ICT applications or services to support economic development programs in developing countries.[1]

INTERNATIONAL DEVELOPMENT RESEARCH CENTER (IDRC)

Acacia Program. This program supports the development of MCTs and other electronic networking initiatives in Africa. Acacia will explore the capability of different telecenter models to meet real community needs, to generate income opportunities, and to develop markets for information products and services. Various types of ownership and financing arrangements will be examined, including public, private, and community models. Specialized telecenters for specific applications may be located in schools, clinics, local government offices, or other facilities. Different financial arrangements may lead to locations in community centers, post offices, and small businesses. Acacia will document and analyze the various alternatives, draw out the lessons learned from each, and highlight best and worse practices.

Pan-Global Networking (PAN). The PAN initiative aims to promote speedy and more efficient access by researchers to the vast textual and multimedia information resources available on the Internet. Special attention is given to research and development for communities in poorer countries and remote areas. The initiative also aims to develop the capacity in the South for using the Internet. The initiative will undertake the following:

- Facilitate research and development through increased communication, information sharing, and collaboration among researchers and development actors;

- Assist the least-developed countries and communities in developing the infrastructure necessary for Internet access;

- Provide "single window" access to development information resources produced by developing countries;

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[1] For a more complete description of donor-supported programs related to business centers, telecenters, and other types of information centers relevant to MSEs, see the Association for Global Internet Services' Web site (http://agis-usa.org/micro-biz/BSC.htm).

- Increase the capacity of developing countries to generate and repackage information resulting from research for availability on the Internet;

- Assist with the development of policies for Internet networking;

- Assist in the development of new networking technologies and tools; and

- Improve the effectiveness of IDRC's program initiatives through electronic networking.

INTERNATIONAL TELECOMMUNICATIONS UNION

Integrated Rural Development Program. The goal of this program is to improve access to telecommunications in rural and remote areas, as well as in deprived urban areas, by developing the necessary telecommunication infrastructure. A key component of this infrastructure would be "community telecenters," serving 1,000-10,000 inhabitants and equipped to offer telematic services and support, and public phone booths for all rural communities in developing and, where needed, in developed countries. The program will establish community telecenters in 20 countries in developing regions, with priority being given to developing countries. The experience gained, including an evaluation of the telecenters' contribution to sustainable development, will be disseminated to developing countries through study groups, seminars, and so on.

UNITED NATIONS DEVELOPMENT PROGRAMME (UNDP)

Sustainable Development Networking Programme (SDNP). This program is a catalytic initiative to kick-start networking in developing countries and help people share information, knowledge and expertise relevant to sustainable development to better their lives. Initially launched in 12 pilot countries in 1992 as a follow-up program to UNCED/Agenda 21 (Chapter 40), the SDNP currently offers assistance in establishing connectivity to national networks and the Internet, content provision and aggregation, and user training in 40 developing nations and 36 small island developing states. SDNP focuses on cross-cutting issues. Information and communication technologies are now fundamental to dealing with all development issues in developing countries and cuts across UNDP's main areas of concentration. It is a core tool needed to achieve sustainable human development (SHD) and one that can facilitate the "leap-frogging" of developing countries into 21st century ICTs and SHD goals.

UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT (USAID)

Leland Initiative. The Leland Initiative is a five-year $15 million U.S. government effort to extend full Internet connectivity to approximately 20 African countries in order to promote sustainable development. The initiative seeks to bring the benefits of the global information

revolution to people of Africa through connection to the Internet and other global information infrastructure technologies.

LearnLink. This USAID-funded program is managed by the Academy for Educational Development. The project integrates digital, distance, and interpersonal communication to enable more people to talk to each other, organize, become exposed to new ideas, practice new skills, and interact with a new generation of machines, people, and systems. Specifically, it fosters computer instruction in schools and learning centers, helps develop radio courses for distance learning and teacher training, explores the feasibility of interactive multimedia kiosks/one-stop communication shops in rural villages, and uses Internet connectivity to monitor and protect human rights.

Other. A number of USAID-funded programs in Russia and the New Independent States have provided funding to help establish business centers, business service centers, and business information centers. The Microenterprise Best Practices Project has supported PeopLink to expand its network of artisans involved in e-commerce. The USAID Mission in Haiti through the PRET Project created a Web site (www.haitiancrafts.org) to market and sell artisans' products.

WORLD BANK

InfoDev. The Information for Development Program (InfoDev) is a global program managed by the World Bank to help developing economies fully benefit from modern information systems. InfoDev shares worldwide experience with, and disseminates best practices to, governments and key decision-makers, both public and private, on the economic development potential of communications and information systems. It channels policy advice and other technical assistance to governments in developing economies on privatization, private entry and competition in the communications and information sectors. The program seeks to improve the policy, regulatory and business environment for investment. It also conducts feasibility and pre-investment studies and prepares experimental applications in communications and information systems. InfoDev's key method of intervention is through specific activities in the following areas:

- Consensus building;
- Information infrastructure development strategies including knowledge assessments;
- Telecommunications reform and market access; and
- Demonstration projects.

All activities are designed to support workable strategies, and they can include workshops, assessments, demonstration projects, feasibility studies, or other approaches. They can cover one or many countries and address one or many sectors.

APPENDIX II

**RESEARCH DESIGN FOR THE EFFECTS OF ICT ON MSES
IN THE PHILIPPINES**

Table 1: Analytical Framework for Institutional Case Studies

Criteria	Data Sources	Key Information	Knowledge to be Gained
Commercial Viability	Managers Financial records (if available) Internal evaluations (if available) Support institutions Customer survey	▪ ▪ Costs and resources needed to establish and run the business ▪ Subsidies ▪ Competitor service providers	To understand the actual or potential commercial viability of the model. To understand if and when subsidies may be helpful in establishing service provision.
Mix of Services	Managers Financial records (if available)	▪ Types of services offered ▪ Actual and relative sales and profits of each service. ▪ Actual and relative costs of each service	The ICT service mix is one of the key factors in both commercial viability and benefits to MSEs. Looking at the profitability of various services (to the extent possible) will provide information about the perceived demand for services as well the relative potential for profits from various ICT services.
Internal Operations	Managers Staff Operations manual Support institutions	▪ Operating systems ▪ Marketing systems ▪ Staff complement ▪ Support services used	Understanding how the service providers operate will provide details on how the models work and give clues as to where efficiency might be improved.
Actual or Potential for Franchising	Managers Franchise managers Support institutions	▪ System for franchising business ▪ Differences between franchise and owned offices ▪ Resources needed to purchase and establish franchise ▪ Approximate franchise profits (if available)	Franchising provides both a way to expand access to ICT services to more areas and, potentially, opportunities for MSEs. Understanding how the current Bayantel model works and analyzing how franchising the SME Service Center could work will provide information on the potential for franchising ICT service provision on a wider scale.
Opportunities for MSEs (See Chart 2)	Managers Franchise managers Customer survey Support institutions	▪ Parts of the business model which offer business opportunities ▪ Support services or ancillary businesses	ICT is a growing industry worldwide. Understanding opportunities for MSEs in this industry or supporting industries could open profitable opportunities for MSEs and provide information for support institutions.
Market Demand for Services from MSEs (See Chart 2)	Managers Sales records Customer survey	▪ Type of MSE customers ▪ MSE use of services ▪ MSE satisfaction with services (by type of service) and service features ▪ MSE demand for other services	Understanding the nature of demand for ICT services from MSEs will enable providers and support organizations to better meet their demands.
Effects of Services on MSEs (See Chart 2)	Customer survey	▪ Reasons for using services (by type of service) ▪ Communicating with whom—buyers, suppliers etc.? ▪ Benefits to and changes in the	ICT services have not been a major focus of support institutions seeking to build the competitive advantage of MSEs. Understanding how ICT services benefit MSEs will provide clues as to the relative importance of ICT services as compared with other services for

Criteria	Data Sources	Key Information	Knowledge to be Gained
		businesses	MSEs.
Potential for Adding New Services (See Chart 2)	Managers Customer survey	■ Other services demanded ■ Other services model would support	As the telecommunications industry evolves, profits from telephone access will decrease. Higher value added services offer businesses the potential to improve profitability and continue to provide basic services to those without other access.

Table 2: Analytical Framework for Customer Research

Criteria	Main Survey Questions	Key Information	Knowledge to be Gained
Profile of MSE Users	What type of business are you in? Is it formal/informal? How many employees do you have? What are your weekly sales? What business assets do you own? Who are your suppliers, buyers and other business partners?	▪ Types of MSEs that use services ▪ Size of MSEs that use services ▪ Business partners of MSEs that use services	Understanding which MSEs need ICT services will enable providers to target appropriate geographic areas for service provision and market services more effectively.
Use of Existing Services	What services do you buy? What is the frequency of purchase? What do you use the services for? What is the total amount you spend per month?	▪ Services used ▪ Frequency of use ▪ Reasons for use ▪ Volume of use	Information on the use of existing services will enable researchers to examine which current services are most important to MSEs and for which volume is high enough to help providers become profitable.
Competition among Service Providers	Where can you buy the services you use? Why do you buy them where you do? How did you learn about the various service providers?	▪ Nature of competition among providers ▪ Important features of services ▪ Effectiveness of provider outreach	Understanding the extent of competition in the industry, how MSEs learn about service providers and what makes one more attractive than another will help providers to become more responsive to MSE demand.
Satisfaction with Services Purchased	Are you satisfied with the service? What features of the service (convenience, quality, payment terms) provide the most/least satisfaction?	▪ Reasons for satisfaction/ dissatisfaction ▪ Important features of services	Learning about customer satisfaction will help to understand what are the important features that make services attractive to MSEs and which features are less important. This information will help providers become more consumer oriented.
Effects on Business	What differences have these services made in operating your business activities? Who do you communicate with (buyers, suppliers etc.)? Does this make your business more competitive? If so, how?	▪ Changes in business due to access to services ▪ Changes in interaction with suppliers, buyers etc. ▪ Changes in ability to compete	Understanding the effects on MSEs will provide some information about the relative importance of ICT services as compared to other types of business services. It will also help to understand if and how these services make MSEs more competitive.
Demand for Other Services	Are there specific business services you value that are in short supply? What would you pay for each service? How often do you think you would use each service?	▪ Demand for services not currently offered ▪ Willingness to pay for other services	Information on demand for other services will help providers make decisions about which services to add and how they could increase revenues.
Opportunities for MSEs	What new types of businesses have started in this area since ICT services	▪ Profitable business opportunities for mses in	Examining what new businesses MSEs have started in, or related to, the ICT industry will

Criteria	Main Survey Questions	Key Information	Knowledge to be Gained
	or cellphones came here (e.g. selling cellphone cards, being a cellphone agent, selling phone service)?	the ict industry ■ Ancillary businesses related to the ict industry	provide information about how MSEs can become a part of this growing industry.

APPENDIX III

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Case 1. *The Rise and Fall of Corposol: Lessons Learned from the Challenges of Managing Growth*. Jean Steege. August 1998. $17.00. To receive the brief on email, send a message to corposol@dai-listserve.dai.com

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Commercialization of Microfinance

Review 1. *Commercial Banks in Microfinance: New Actors in the Microfinance World*. Mayada M. Baydas, Douglas H. Graham, Liza Valenzuela. August 1997. $7.00. To receive the brief on email, send a message to commercial@dai-listserve.dai.com

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Review 1. *Microenterprise Business Development Services: Defining Institutional Options and Indicators of Performance*. Clifton Barton. September 1997. $9.20. To receive the brief on email, send a message to bds@dai-listserve.dai.com

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Review 1. *Managing Growth: The Organizational Architecture of Microfinance Institutions*. Craig Churchill. May 1997. $11.00. To receive the brief on email, send a message to growth@dai-listserve.dai.com

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Review 1. *Microfinance in the Wake of Natural Disasters: Challenges and Opportunities*. Geetha Nagarajan. March 1998. $7.40. To receive the brief on email, send a message to disaster@dai-listserve.dai.com

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Review 3. *Poverty Assessment by Microfinance Institutions: A Review of Current Practices*. John K. Hatch and Laura Frederick. August 1998. $9.20. To receive the brief on email, send a message to pov-assess@dai-listserve.dai.com

Review 4. *Social Intermediation and Microfinance Programs: A Literature Review*. Elaine Edgecomb and Laura Barton. August 1998. $7.60. To receive the brief on email, send a message to social@dai-listserve.dai.com

Technical Notes

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Note 1. *The CAMEL Technical Note*. Darcy Salinger and Sonia Saltzman. September 1998. $13.50. To receive the brief on email, send a message to camel@dai-listserve.dai.com

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Note 1. *New Product Development for Microfinance: Evaluation and Preparation*. Monica Brand. September 1998. $6.50. To receive the brief on email, send a message to new-prod@dai-listserve.dai.com

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