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Mobile Communications in Mexico:
A First Look at Usage Patterns
and Social Implications

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Abstract

The Latin American region has joined the mobile zeal that is invading the world. Indeed, the use of mobile telephony has increased dramatically vastly surpassing all expectations for the industry. The dramatic growth in mobile telephone has been documented as the result of lower income barriers and a faster rollout. Business model innovations such as pre-paid and regulatory practices such as calling party pays helped overcome credit barriers and increased subscriber growth.

As has been the case with other technological innovations, the diffusion of mobiles is changing human interaction. It is intuitively clear that mobile communications are exerting an influence on social interaction in developing countries such as Mexico. The mere increase of its use is dramatic. As in other developing countries the diffusion of mobiles in Mexico has had a stronger impact on penetration than any universal access policies. However, there are no studies that empirically document the impact mobile telephony has had on social interaction among different social sectors. This paper analyses the particular form of expansion that the mobile market has experienced in Mexico and it provides an initial attempt to document the social impact mobile has had in the country by identifying characteristics of mobile phone usage among Mexican teenagers and youth.

The point of documenting the pattern of mobile growth does not constitute an end in itself but rather an initial step in understanding the role ICT may play in social and economic development.

Resumen

América Latina se ha sumado al creciente uso de telefonía móvil que ha invadido al mundo. En efecto, el uso de telefonía móvil ha aumentado drásticamente en la región, superando ampliamente las expectativas de la industria. Dicho crecimiento ha sido documentado como el resultado de menores barreras de ingresos de la población y un rollout más veloz. En adición, los nuevos modelos comerciales como el prepago y las prácticas regulatorias como "el que llama paga", han contribuido a aumentar significativamente el número de los suscriptores de teléfonos móviles.

Tal como ha sucedido con otras innovaciones tecnológicas, la difusión de la telefonía móvil está cambiando las interacciones humanas. Intuitivamente resulta claro que las comunicaciones celulares y móviles están influyendo en la interacción social en países en desarrollo como México, tan solo basta mirar al aumento del uso de esta tecnología en los últimos años. La difusión de los móviles en México y en otros países de la región ha aumentado la penetración de la telefonía como ninguna política de

acceso universal había logrado. Sin embargo, aún no existen estudios que documenten empíricamente el impacto que la telefonía móvil ha producido sobre las interacciones sociales en distintos sectores sociales. Este artículo analiza cómo se ha expandido el mercado de telefonía móvil en México y proporciona una aproximación inicial sobre los efectos sociales que los móviles han provocado sobre un sector en particular: los adolescentes y jóvenes en México.

El objeto de presentar cómo ha evolucionado el crecimiento de la telefonía móvil no constituye un fin en sí mismo, sino un paso inicial para comprender el papel que las tecnologías de información y comunicaciones (TICs) pueden tener en el desarrollo social y económico.

Introduction*

The Latin American region has joined the mobile zeal that is invading the world. Indeed, the use of mobile telephony has increased dramatically vastly surpassing all expectations for the industry. The level of mobile penetration in Latin America has grown so rapidly and in such magnitude in the past few years that it has left fixed telephony behind: today, the penetration of mobile telephony is twice that of fixed telephony and the perspectives for growth seem to point towards a further increase in the gap between the two.

While the tendency observed in the region mirrors a worldwide trend, the way mobile services are used and valued in a developing region such as Latin America is very different from the developed regions of the world. Access to telecommunications is largely mobile and not fixed; mobile services are a substitute and not a complement to other services. While during the mid-eighties mobile telephony was considered a device to be used by the richest segments of the population, today, mobile telephones reach into the poorest segments of the population, providing their only source of access.

The dramatic growth in mobile telephone has been documented as the result of lower income barriers and a faster rollout. Business model innovations such as pre-paid and regulatory practices such as calling party pays helped overcome credit barriers and increased subscriber growth.

As has been the case with other technological innovations, the diffusion of mobiles is changing human interaction. A recent study presented by the International Telecommunications Union (ITU) contends that the mobile phone is being transformed from a technical device to a "social object" used in everyday life (ITU 2004a, 4).¹ There is a vast literature that examines the impact that technology has on social interaction. On one side of the spectrum, the deterministic perspective views the impact as inherent in the technology, *i.e.*, technological change causes social change. On the other side, the instrumentalist perspective sees this impact as within the domain of the individual (Mumford Lewis, 1934). The stance in this paper is that technology enables social change and the nature of its impact takes place within specific institutions and cultures (Warschauer, 2003). That is, technological innovation and social context are intertwined phenomenon that together may explain the impact of ICTs on social interaction (Kling, 1991).

It is intuitively clear that mobile communications are exerting an influence on social interaction in developing countries such as Mexico. The mere increase

* A shorter version of this paper is going to appear as a book chapter in "Mainstreaming mobiles: Wireless communication around the world", edited by James Katz and published by the MIT Press (forthcoming).

¹ The ITU paper explores four different social and human implications derived from the explosion in the growth of mobile telecommunications in recent years: identity, social interaction, the workplace and wellness and safety (ITU 2004a).

of its use is dramatic. As in other developing countries the diffusion of mobiles in Mexico has had a stronger impact on penetration than any universal access policies. However, there are no studies that empirically document the impact mobile telephony has had on social interaction among different social sectors. This paper analyses the particular form of expansion that the mobile market has experienced in Mexico and it provides an initial attempt to document the social impact mobile has had in the country by identifying characteristics of mobile phone usage among Mexican teenagers and youth. The point of documenting the pattern of mobile growth does not constitute an end in itself but rather an initial step in understanding the role ICT may play in social and economic development. The sheer numbers show the remarkable growth experienced in its use among all segments of the population suggests mobile communications may be exerting a significant impact on society at large.

The first section will present a brief overview of the Mexican mobile market, while the second will identify the evolution of usage patterns among three different variables of study: age, gender and socioeconomic levels. Based on data obtained from a survey, the next section will explore how teenagers and youth are using cellular phones in Mexico and it will provide initial data that can be compared to the usage patterns found in other countries. The results obtained thus far suggest that the diffusion of mobile telephony that the market has achieved in this country has led to the transformation of mobile from a luxury service to the main form of communication among the poor and the young. Moreover, the impact the increased use of this service is having on social interaction begets the need for an expanded research agenda that examines impact of ICT in different social and economic contexts.

1. Development of the Mexican Mobile Industry

In Latin America, the number of mobile subscribers increased close to 25 times, from 4 million in 1995 to 135 million in 2004. This dramatic increase is a somewhat recent phenomenon. Until 1997, mobile telephony was a secondary business option for incumbent companies. Fixed teledensity by far surpassed mobile penetration and investment in fixed telephony, being relatively sheltered from competition and operating within a relatively weak regulatory environment, seemed to promise a major source of income. Mobile telephony firms, on the other hand, were subject to intense competition. Therefore, as the mobile companies were facing serious difficulties in generating positive EBITDAs,² the firms in the fixed sector owning mobile sister companies did not consider this branch of their business as very promising (Mariscal & Rivera

² Earnings Before Interest, Taxes, Depreciation, and Amortization (EBITDA) constitutes an indicator of the company's financial performance and generally it is used to analyze and compare profitability between companies because it eliminates the effects of financing and accounting decisions.

2005). After 1998, while fixed teledensity tends to stagnate in most countries, mobile telephony begins to grow at two digit ratios. The average annual growth of mobile telephony users during the 2000-2003 period was 33% in the region, while growth in the case of traditional telephony was only 7% (Mariscal & Rivera 2005). This dramatic growth changed the access to voice communications; what initially appeared as a means of communications restricted to high income groups was transformed into the main means of telecommunications access to the poorer groups of the region.

This same pattern of growth was experienced in Mexico. Mexico initiated in 1990 a process of major reforms in its telecommunications sector, with the aim of modernizing the network, on the one hand, and opening the country to international trade and investment on the other. During the initial phase of reforms, the national telephone company, Telmex was privatized and opened to a restricted level of foreign investment. Telmex was maintained as a vertically integrated company, with a dominant position in the three segments of the telephone market.³ Each of these segments exhibited a different market structure; local service was a *de facto* monopoly until 1998, long distance a temporary monopoly⁴ while cellular faced limited competition.

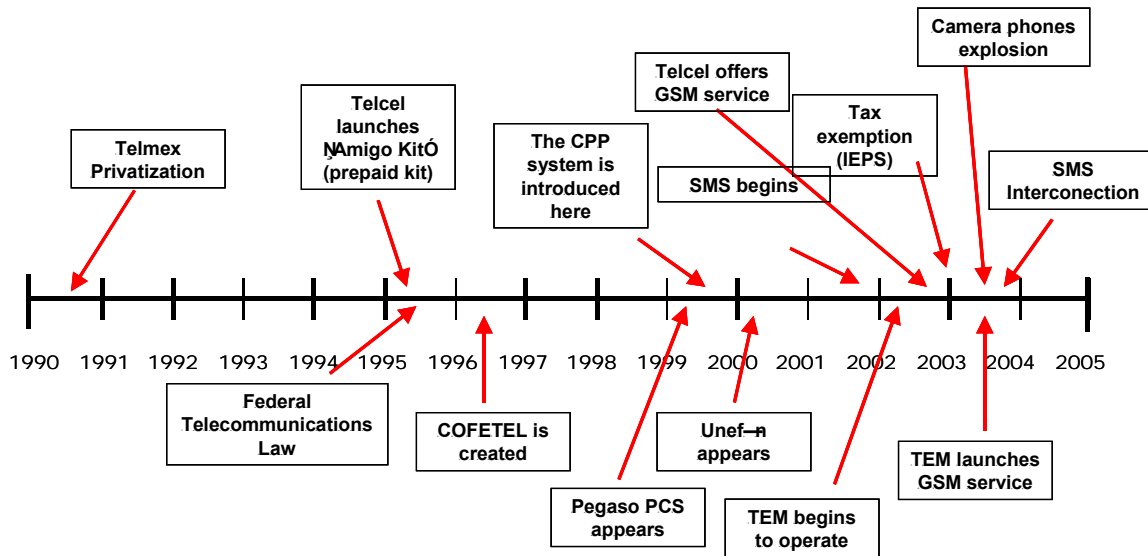
The second phase of reforms began in 1994, when national and international long distance services were opened to competition. It was not until 1995 that the Federal Telecommunications Law (FTL) was enacted, while the Federal Telecommunications Commission (COFETEL), the specific sector regulatory agency, was established in 1996. Although the FTL promoted competition in the sector, COFETEL lacked the necessary authority, independence and autonomy to establish adequate regulatory mechanisms.

When the cellular market was initiated, Mexico was divided into nine regions –which are still operating- and duopoly concessions were granted in each. Figure 1 describes the different phases of the Mexican telecommunications and mobile sector.

³ The chain in the value of telephone services is composed of three main market segments; local service, long distance and cellular.

⁴ Entry into the long distance market was denied for seven years after the privatization of Telmex.

Figure 1. Mexico's mobile market timeline



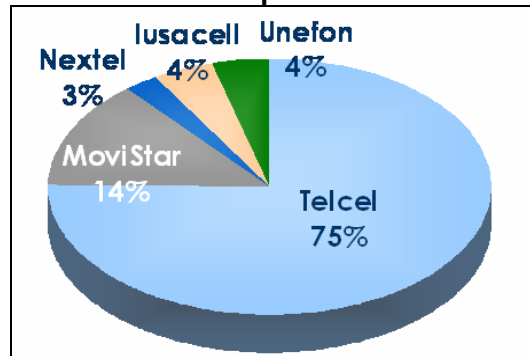
Source: Telecom CIDE, (2006).

The first phase in the development of the Mexican mobile market, ranging from May 1999 to the end of 2001 was characterized by high interconnection rates and a market dominated by one leading competitor, Telcel, and one follower, Iusacell. Despite high costs, the market expanded, driven by general economic growth, and the introduction of two modalities that drove the mobile market's dynamic growth pattern: firstly the prepayment and then the overall adoption of the "calling party pays" by the end of nineties.

During the second phase, covering the years 2002 to 2004, the entry of new competitors brought about the adoption of necessary measures, such as the interconnection between operators for SMS. Increased competition also helped overcome some of the adverse effects of the economic stagnation. Finally, a new period began in 2004, with a more mature level of competition that has led, together with the economic recovery, to a major increase in traffic.

Until 2001, Mexico had nine competitors in the mobile arena. Due to consolidation and business strategies, less than half remain in the market. Telefónica Móviles acquired Pegaso and the Mexican Salinas Group acquired Iusacell. Including this acquisition, three distinct mobile operators remain in the market: Telcel, Telefónica, Iusacell and Unefón, the original mobile operator of the Salinas Group. In 2004 Telcel still dominates 75% of the market which gives it the capacity to have an impact on the level of prices. The other participants, Telefónica Movistar, Iusacell, Unefón and Nextel, compete for the residual demand of the market. The following Graph (Figure 2) illustrates the structure of the Mexican market around a dominating operator.

Figure 2. Main mobile operators in Mexico (2004)



Source: Select, November 2004.

Even though the Latin American market in general, has been considered a segment open to competition, the increasing involvement of two leaders (Telefónica Móviles and América Móvil) with joint participations of 89% throughout the Latin American market, with minor participations from other companies is transforming the market into a duopoly.

1.1 The pattern of growth in the Mexican mobile market

In Mexico, as in most Latin American countries, the growth in mobile telephony has been extraordinary. While in 1990 Mexico had 64,000 subscribers, mostly limited to the higher echelons of society, by 2005, the number had increased to 44 million. Prepaid mobile system introduced in 1995, and “calling party pays” modality (CPP), introduced in 1999, have resulted in impressive growth and penetration rates, as can be seen in Table 1.

Table 1. Mexico: Mobile subscribers, annual growth and mobile subscriber density, 1990-2005

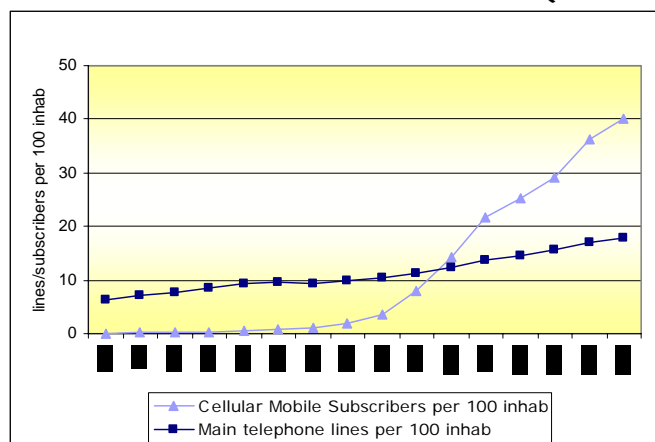
YEAR	MOBILE SUBSCRIBERS (THOUSANDS)	ANNUAL GROWTH RATE (%)	MOBILE SUBSCRIBER DENSITY (%) ⁵
1990	63.9	-	0.1
1991	160.9	151.8	0.2
1992	312.6	94.3	0.4
1993	386.1	23.5	0.4
1994	571.8	48.1	0.6
1995	688.5	20.4	0.8
1996	1,021.9	48.4	1.1
1997	1,740.8	70.4	1.8
1998	3,349.5	92.4	3.5
1999	7,731.6	130.8	8.0
2000	14,077.9	82.1	14.2
2001	21,757.6	54.5	21.6
2002	25,928.0	19.2	25.4
2003	30,097.7	16.1	29.1
2004	38,451.1	27.8	36.3
2005*	44,614.1	16	40.2

Source: Cofetel, 2006.

*September 2005.

Today, the growth in mobile telephony by far surpasses that of fixed telephony. Figure 3 depicts the evolution in the penetration of fixed and mobile telephony in Mexico.

Figure 3. Fixed versus Mobile in Mexico (1990-2005)



Source: Telecom Data based on COFETEL.

⁵ Mobile subscriber density is defined as the number of users of mobile telephone services per 100 inhabitants.

Table 2 shows the rapid growth in mobile take up as compared to fixed, where some countries, such as Chile and Venezuela, show negative growth rates. On average in the region, mobile penetration reached 34%, doubling the 16% shown by fixed. In Chile mobile penetration is close to three times that of fixed. In Mexico, while fixed services grew by 8% in 2004, mobile increased by 27%.

Table 2. Relative take up of fixed and mobile services in the study countries

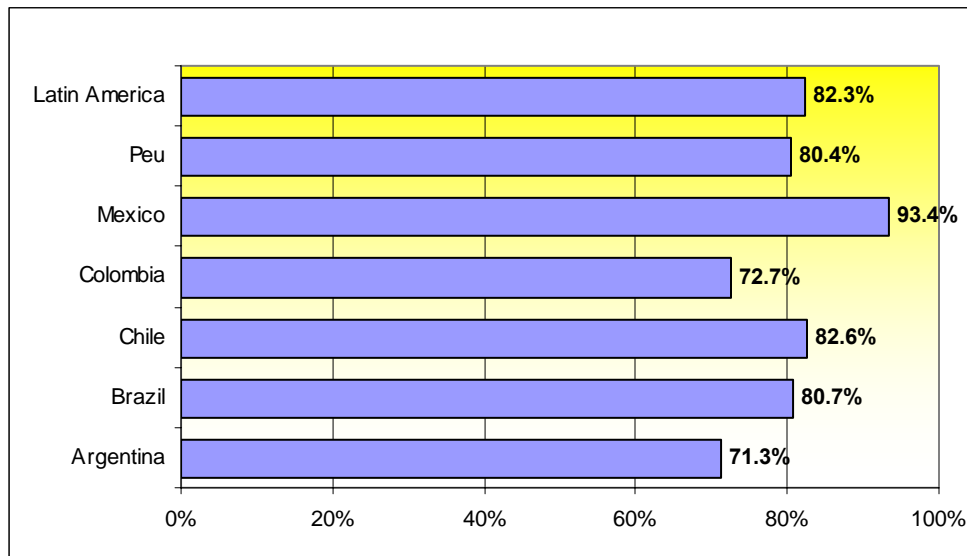
Country	Penetration		Growth rate	
	fixed (1)	mobile (2)	fixed (1)	mobile (2)
Brazil	22%	36%	0%	42%
Chile	22%	60%	-4%	29%
Colombia	18%	26%	0%	73%
Mexico	16%	36%	8%	27%
Peru	7%	14%	8%	41%
Venezuela	11%	32%	-2%	23%
Average (simple)	16%	34%	1.7%	39%

(1) At end of 2003 from ITU

(2) At end of 2004 from Merrill Lynch

A significant characteristic in the dynamic growth of the Mexican mobile sector is the predominance in prepaid subscribers as a proportion of total subscribers in the country. As can be seen in the following Figure, Mexico exhibits the highest rate of prepaid modality compared to other Latin American countries.

Figure 4. Prepaid subscribers as % of Total Subscribers, (2004)



Source: author's own elaboration based on Pyramid.

This phenomenon may be due to the fact that prepaid modality was introduced right after the intense economic crisis Mexico suffered in December of 1994. As a result, prepaid service was promoted by Telcel in order to avoid any financial risk associated with telephone credit. Moreover, consumers were attracted to the flexibilities offered by this modality. Obtaining a prepaid telephone was much easier than any other since the subscriber was not requested to complete the long list of requirements that post paid service had.⁶ The second reason has to do with the lower costs in the chains of distribution Telcel has experienced as a member of the Carso Group. Since Carso Group not only is a conglomerate made up of telecom but also financial and other companies, the costs of distributing prepaid cards was very low; basically a marginal cost for the operator.⁷

2. Mobile usage in Mexico: age, gender and socioeconomic levels

Several studies have been undertaken to show the advantages of mobile telephony over fixed telephony and other traditional accesses to telecommunications for users of low consumption and rural users (Dymond and Oestman, 2004; NECG, 2004; Stephens *et al.* 2005; Oestman, 2003; Telecom CIDE, 2006; Vodafone, 2005). One of the main advantages is the lower cost to the user of mobile services, including line activation, SIM card and equipment, compared to fixed services (Oestman, 2003). Although prices and economic factors are important, there are other reasons and social factors that determine the use of mobile telephones in general. This section identifies the usage patterns in different groups in Mexico, and particularly, it explores if there are gender-wise, age-wise or economic-wise peculiarities.

2.1 Gender

Comparing the usage among female and male users in Mexico, men show a higher proportion rate than women. According to a survey conducted by Telefónica Movistar de México (TEMM) in 2005, there were more male users than female ones. As Figure 5 shows, in 2005, among men, 55% were current mobile users, 14% were users in the past, in contrast to 47% and 9% of women respectively.⁸ Moreover, while 44% of females have never used a mobile, among male users, the proportion represents only 31%. As was reported by the main cellular operators, the higher proportion of usage among men is a result of their

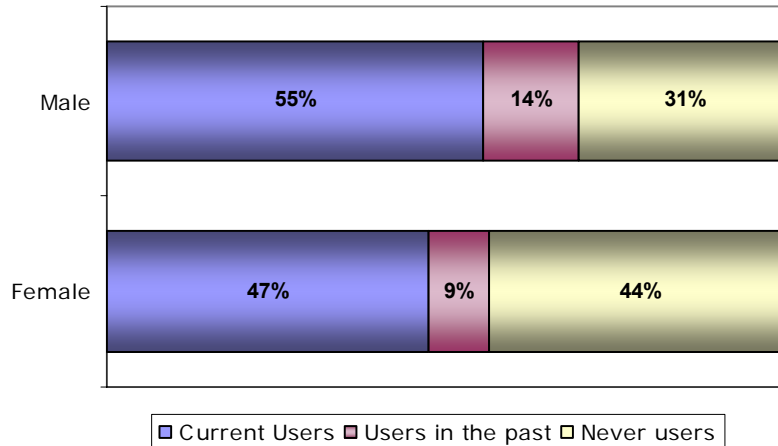
⁶ Interestingly, one of the reasons that explains the growth postpaid plans are showing from July 2005 has to deal with the less requirements the companies are requesting in order to access to a monthly plan.

⁷ For a broader explanation of how Grupo Carso is organized, see section IV of Mariscal & Rivera (2006).

⁸ The same trend was found in previous years, according to data available from TEMM surveys.

higher participation in the labor market. In fact, men represent two thirds of the country's total economically active population (source: CONAPO).

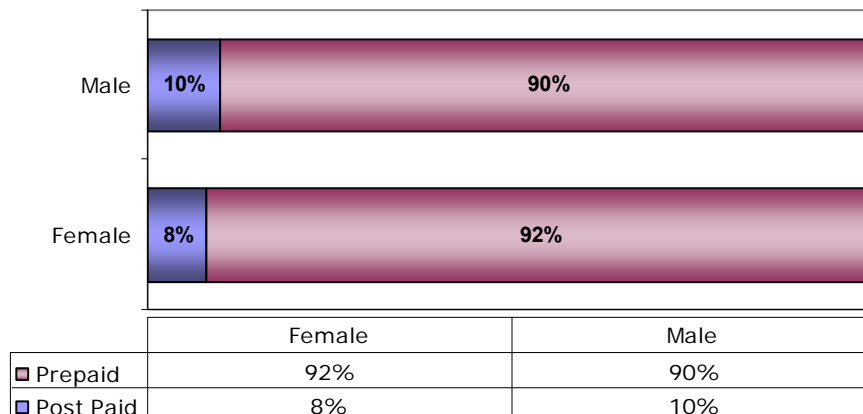
Figure 5. Gender usage in Mexico



Source: author's own elaboration based on TEMM 2005.

Regarding the use of different payment plans for mobile telephony by gender, it can be seen that both men and women by far prefer prepaid plans to other. It can also be noted that men show a higher proportion of usage of post paid plans (10%) compared to women (8%). Again, the higher proportion of men using post paid plans is related to their higher participation in the labor market. Firms that provide mobile phones to their employees are more willing to acquire monthly rate plans that are more convenient in terms of savings.

Figure 6. Payment plans and gender in Mexico



Source: author's own elaboration based on TEMM 2005.

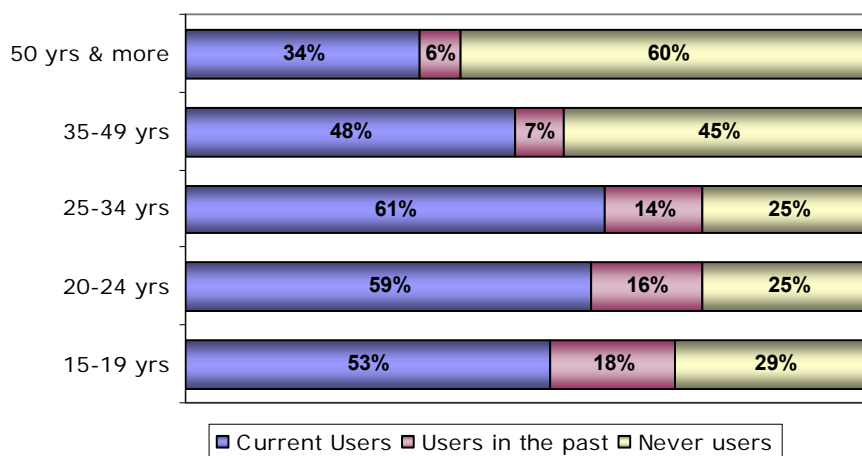
According to a survey from 2003, when comparing the purposes of acquisition, the main two reasons for female respondents to acquire a cellular telephone were to be easily reachable (30.3%) and for security or an emergency (22.6%). On the other hand, the main reason for purchasing a mobile by men was making personal calls (26.3%), followed by making job-related calls (21.8%). An interesting finding was that only 10% of females considered working purposes as the main reason for purchasing a mobile, compared to 21.8% of males. Prices or costs did not constitute important reasons for cellular phone acquisition.

2.2 Age

There are differences in usage of mobile telephony by age groups as well. As can be seen from Figure 7, in 2005 young adults aged 25 to 34 show the highest rate of users in Mexico; Teenagers and Youth from 15 to 24 years of age also exhibit a high penetration rate, which is growing year by year. The younger generation is becoming the target of mobile operators in Mexico, who address their new products and publicity campaigns to them. For instance, Telcel -the most important player in the industry- has focused on the teenage and even the children’s market by launching new phones based on popular cartoons and television characters. The fourth section will explore in more detail the youth and teenagers market.

From a different point of view, people from 50 years and more depict the lowest penetration rate and the highest proportion of never users, which is due to the relatively new phenomenon of mobile technology and the typical resistances older people show to new technological advances.

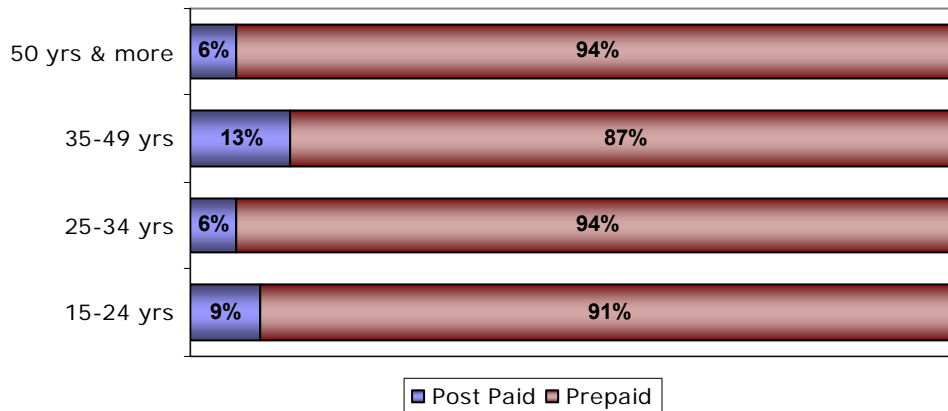
Figure 7. Cellular telephone penetration per age group in Mexico



Source: author’s own elaboration based on TEMM 2005.

It is interesting to analyze the preferences regarding payment options. Again, the prepaid modality is preferred by every age group in over 85% of cases. People aged 35 to 49 show the highest usage rate of post paid plans. This can be explained by their higher participation in the labor market and the resulting higher average income.

Figure 8. Age-based usage in Mexico by payment options



Source: author's own elaboration based on TEMM 2005.

In order to analyze the growing use of cellular telephones by low income groups, we will use the concept of "socio-economic levels" (SEL) defined by the Mexican Association of Market Research and Public Opinion Agencies (AMAI).⁹ The SEL are divided into five groups: A/B, C+, C, D y E, where the A/B group includes the highest income population of the country while the E group includes persons with the lowest income level and quality of life.

From data generated by two surveys undertaken by Telefónica Movistar of Mexico we can obtain a preliminary understanding of the use of mobile telephony by low income groups. Table 3 provides indicators for the year 2003.

Table 3. Mexico: Mobile penetration by Socioeconomic Level (2003)

YEAR 2003	LEVEL A/B	LEVEL C+	LEVEL C	LEVEL D+	LEVEL D	LEVEL E
Distribution of Population	10.8 %		32.9%			56.3%
Postpaid subscribers	19%		8%			6%
Prepaid subscribers	81%		92%			94%
Mobile Penetration (per group)	85%		43%			9%

Source: Telecom CIDE (2006) based on TEMM.

⁹ The series of socio-economic levels constitute the standard for the industry, which, through a specific rule, assigns the corresponding socio-economic level to a given home.

As can be observed in Table 3, in 2003 the use of mobile telephones dominates in the higher income sectors of the population, where 85% of the individuals within this income bracket are users of mobile telephony. On the other hand, in 2003, the lowest income group also included users of mobile telephony -one in every 11 had a mobile telephone.

Nevertheless, penetration in the past two years tells a different story. According to recent (and preliminary) data provided by Telefónica Movistar, by 2005 the mobile telephone has become a common tool among the lower income sectors. While in 2003 only 9% of the individuals classified within the D and E socioeconomic levels were users of mobile telephony, by 2005 the number had tripled and now reaches 27% of the population within those income brackets.

In the higher income sectors, on the other hand, the number has not changed significantly. This could be expected since the percentage of the population using mobile telephones in that income bracket was already high. It is also interesting to note that the middle class, associated with SEL C and D+, has also shown a growing use of mobile telephones as evidenced by an increase from 43% in 2003 to 51% in 2005.

Table 4. Mexico: Mobile penetration by Socioeconomic Level (2005)

	LEVEL A/B	LEVEL C+	LEVEL C	LEVEL D+	LEVEL D	LEVEL E
DISTRIBUTION OF POPULATION	10.8 %		9.1 %	23.8 %	56.3 %	
POSTPAID SUBSCRIBERS	28%	12%	6%	6%	4%	
PREPAID SUBSCRIBERS	72%	88%	94%	94%	96%	
MOBILE PENETRATION (PER GROUP)	89%	75%	67%	42%	27%	

Source: Telecom CIDE (2006) based on TEMM.

The increasing use of mobile telephones by the lowest income groups is mostly due to the low access and usage costs provided by the prepayment system and the “calling party pays” modality.¹⁰ When analyzing the segment of prepayment specifically, using Tables 3 and 4 above, both in 2003 and 2005, the groups most intensively using this modality are those falling within SELs D and E. This provides them with increased autonomy from other alternatives such as community centers, where there are often restrictions to receiving calls. Another aspect to be taken into consideration is the importance of having a means to be located in order to access employment possibilities, since among the lower income groups temporary employment tends to predominate. Based on this study, the main reasons mentioned by the mobile users of

¹⁰ Under the prepaid system, users have the advantage of controlling their telephone expenses, eliminating the risk of escalating debts. The user has no fixed monthly charges but can determine its level of expense and usage. And together with the CPP modality, even if the telephone no longer has credit, the user can continue receiving calls, allowing for a constant connection.

socioeconomic level D for purchasing a cellular telephone include the need to be located, making personal calls and making job-related calls.

As a conclusion, prepaid services were preferred by every group analyzed in this section. Together with the introduction of prepayment in mobile telephony, the overall adoption of the “calling party pays” -where the user does not have to finance incoming calls- translated into a major increase in demand and contributed to a major growth in coverage in Mexico.

3. Mobiles and Youth in Mexico City: findings from a survey

Youth and teenagers are becoming the most enthusiastic users of mobile telephony in many countries around the world. Mobile phones have become not only a status symbol and a fashionable good for young people but also a new mode of socializing, particularly in developed countries (ITU 2004). As it was pointed out by the ITU “many teenagers don't recognize the difference between speaking on their mobile phone and meeting face to face” (ITU 2004, p. 12).

In Mexico, young people are increasing their use of mobile services transforming the way they interact and with this introducing a major social innovation. In this section, we will explore how teenagers and youth are using cellular phones in Mexico, based on the experience of previous studies conducted by the ITU (2004b) and MACRO (2004). The ITU study was designed to explore mobile usage patterns and trends of US young students and MACRO report replicates it in the Indian context. The questionnaire elaborated for the Mexican scenario uses the same variables of study, so it can be useful as a base for future comparisons at the international level.

The Mexican survey covered youth respondents in the age groups from 15 to 29 divided into three category groups and it was conducted at high schools, college and graduate school in the west area of Mexico City.¹¹ Most of them were full time students while some were also working. In this first stage, the results we are presenting correspond to a sample of 77 respondents.¹² Out of the total sample, 53% were female and 47% were male. Next Table shows age and gender distribution of the sample.

Table 5. Respondents by Age and Gender

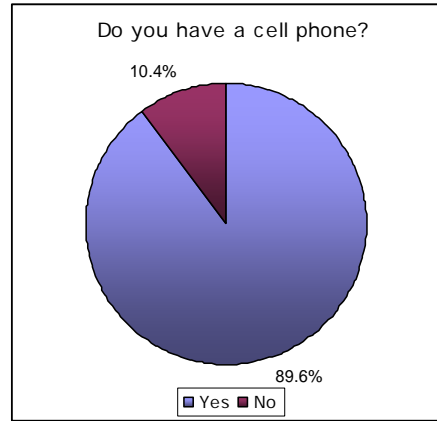
	Female	Male	Total
15-19	44%	29%	36%
20-24	25%	41%	34%
25-29	31%	29%	30%

¹¹ Questionnaires were distributed principally at CIDE and the American School.

¹² The number of the sample might not be the best in order to derive a correct generalization of the findings, but we consider it represents an interesting primary look into the patterns of youth mobile users in Mexico.

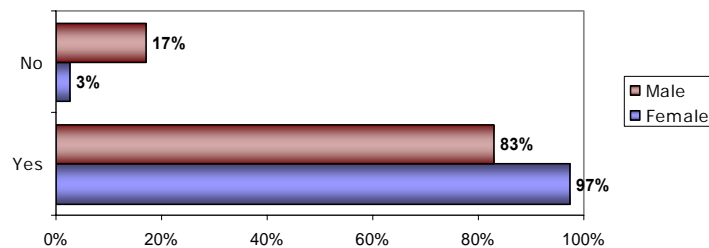
3.1 Mobile Usage

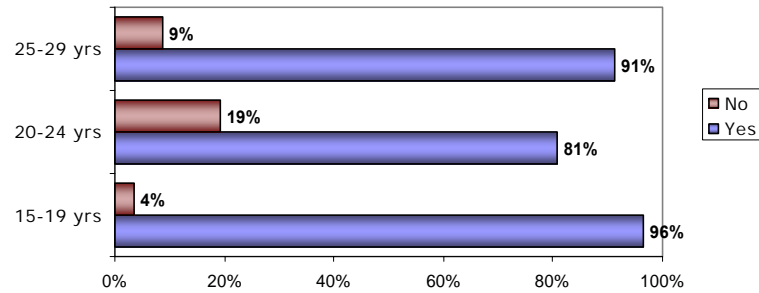
Figure 9. Mobile users



The first finding was that 90% of the respondents were mobile users while only 10% were not. Between those who answer not owning a cell phone, 38% of them are planning to buy one in the near future, mainly because they think they would need it for work. Regarding gender and age groups, those who cited not owning a cell phone were male between 20-24 years. Respondents from the youngest age group showed the highest rate of users, which is due to two main factors: many of them belong to a high income group and as it was already mentioned; cellular phones have been spreading rapidly among teenagers during the last years. On the other hand, 65% of the cases in the 25-29 age category were working and many of them cited they own a cellular telephone because of that.

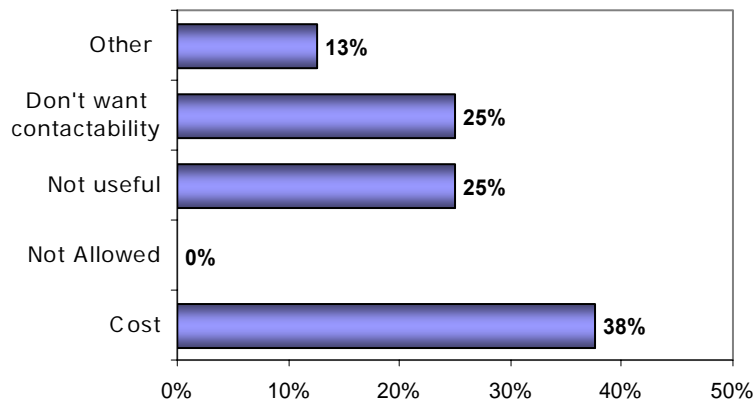
Figure 10. Mobile users by gender and age groups





There were at least four main reasons for those who do not own a cell phone; high costs represent the most important barrier for those who are not current mobile users. Interestingly, while in other countries an important reason for not having a cell phone has to do with not being allowed to, this was not an important factor to the respondents of this survey.¹³ In fact, no one chose that answer.

Figure 11. Reasons for NOT having a cell phone

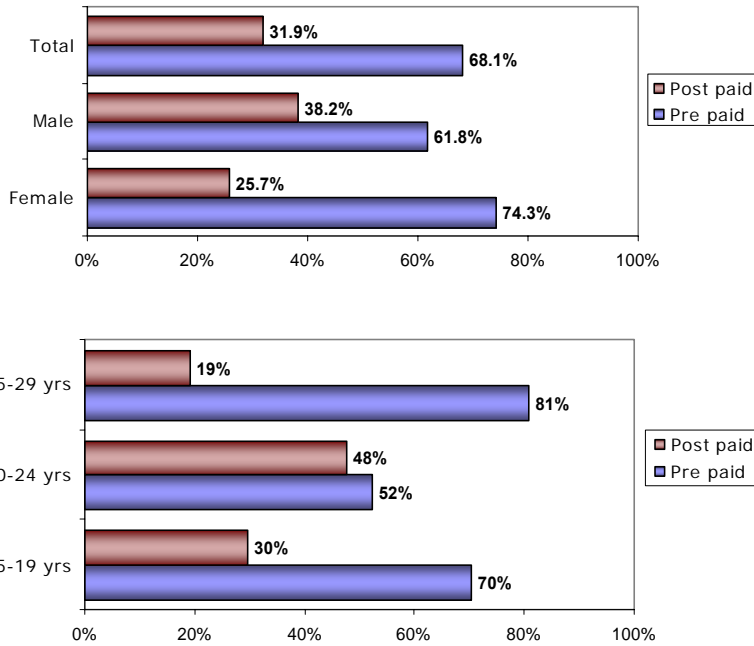


3.2 Modalities of payment

Following the same pattern presented in the previous section, prepaid services are preferred in every category of analysis. From the total users, 68% were prepaid users while 32% were into monthly rate services. When analyzing by gender, female showed a higher proportion of being on prepaid payment modality than men. Taking into account that females tend to talk more on their cellular phones than males, the possibility of budgeting telephone expenses using prepaid services can explain this gender inclination towards this modality.

¹³ In the case of the US student's survey as well as in the Indian study, "not being allowed to" was stated as the second main reason for not owning a cellular phone (ITU 2004b and MACRO 2004).

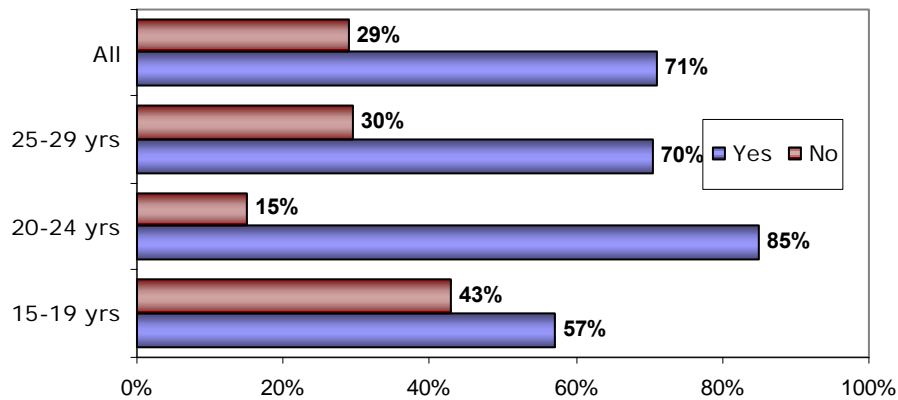
Figure 12. Payment options by gender and age groups



3.3 Calling and usage patterns

When asking if there is any difference between speaking on your cell phone and meeting face to face, almost a third of total respondents gave a negative answer. Interestingly, the amount of respondents in the 15-19 age group who stated not recognizing any difference between this two ways of communicating where the highest in the sample (43%). This pattern reaffirms what is was pointed out previously at the beginning of this section.

Figure 13. Do you think there is any difference between speaking on your cell phone and meeting face to face?



In terms of mobile functionality, sending and receiving text messages are the most common activity among teenagers. As Figure 14 depicts, text messaging is more common than any other activity. Making local calls is important as well, but it less frequent than short messages services (SMS). This trend was also found in other countries, such as India and UK, where young people may prefer text to voice.¹⁴ On the other hand, activities such as downloading ring tones, playing games and sending photos were reported as the less common actions. In the case of playing games on the cellular phone, the frequency proportion found among the respondents is surprisingly small, compared to other countries. As it was pointed out by Macro report (2004), the industry patterns indicate that mobile gaming can be considered the "next big thing" after SMS and ring tones (Macro 2004, p. 22). According to Mexican operators, gaming still represents an incipient service but it will be developed in the future.

Figure 14. How frequently do you use your mobile phone for...?

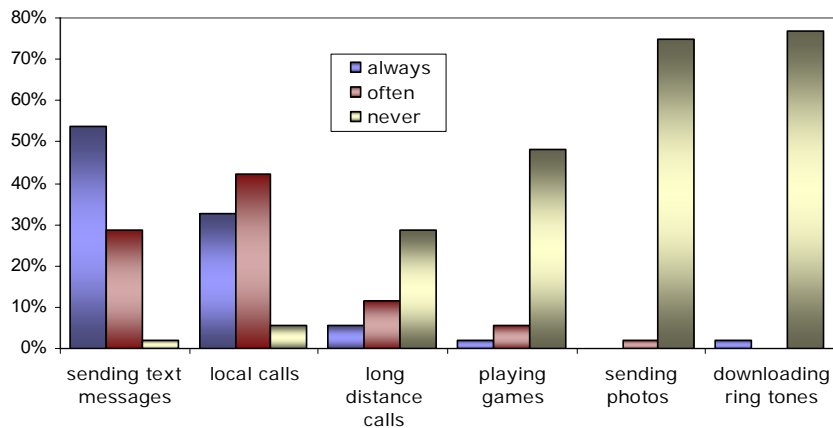


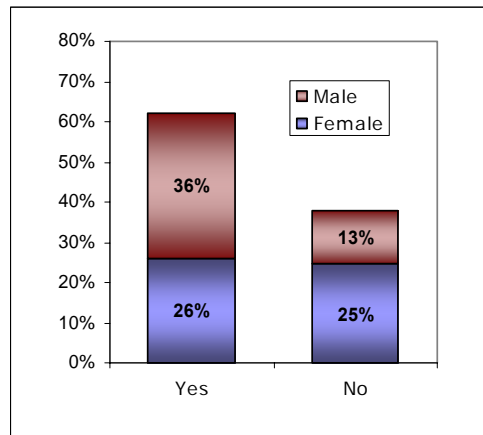
Table 6. Mobile functionality

	ALWAYS	OFTEN	SOMETIMES	RARELY	NEVER
SENDING TEXT MESSAGES	54%	29%	13%	2%	2%
LOCAL CALLS	33%	42%	15%	4%	6%
LONG DISTANCE CALLS	6%	12%	15%	38%	29%
PLAYING GAMES	2%	6%	17%	27%	48%
SENDING PHOTOS	0%	2%	0%	23%	75%
DOWNLOADING RING TONES	2%	0%	2%	19%	77%

¹⁴ According to the ITU study, in the UK more than eight out of ten people under the age of 25 are more likely to send someone a text message than to call (ITU 2004a, pg. 13). In the study of mobile phone usage in Mumbai, India, making local calls and text smsing were reported as the most common activities as well (Macro 2004, pg. 22).

Another interesting question was related to the possibility of living without a cell phone. Surprisingly, 38% reported they were not able to spend even a day without their cell phones. Many of the respondents cited that they were very used to having their cellular phones every day and they need to be accessible to their friends, family or colleagues constantly. Moreover, some declared they get very nervous and anxious if they forgot their mobiles at home, in their cars or at the office.

Figure 15. Could you live without your cell phone?



Regarding gender analysis, female seemed to be more sensitive to mobile addition than men. One possible answer to this has to do with the less independence from their families female teenagers experience in Mexico compared to male. In fact, women show a higher tendency to call home than men. 34% of females stated they direct one every two calls to their families versus 28% of males; other 51% of females cited they call home one every three calls while the proportion of men in the same category were 40%.

Conclusions

This paper documented how the growth in the use of mobile communications constituted the most effective universal access tool Mexico has experienced. Regulatory changes in the industry and pricing strategies such as “calling party pays” and pre-pay contributed to support this development and dramatically changed the access to voice communications. What initially appeared as a means of communications restricted to the highest income groups has been transformed into the principal means of access to telecommunications for the poorer groups of the region.

When analyzing the usage patterns among different variables of study, there are some interesting findings in the Mexican context. Mexican users by far prefer pre-pay modality, independently of gender, age and income groups. This is mainly due to the benefits offered by the prepayment system both to the operators as well as to the users. To the companies, the advantage is reducing the risks of fraud, eliminating the need for monthly expense statements and reducing collection costs; to consumers, the advantage lies in controlling their telephone expenses and in the easiness of acquisition. When looking at gender related evidences, we noticed that men show a higher proportion rate of usage than women. It may be that this difference is explained by the higher participation of males in the labor market. In particular, mobile technology was found to be very helpful for lower income groups in order to access employment opportunities.

Mexico shows a robust mobile market that is growing with a significant potential for a sustainable expansion. Because of its great dynamism, youth market is becoming the focus for mobile operators, equipment manufacturers, and other service providers. As it was identified in this study, cellular usage among teenagers and young people in Mexico is spreading day by day, changing their social behaviour and the way they interact. A good example in this regard is that a considerable amount of teenagers (more than 40% of the teenager users surveyed) considered there is no difference between speaking on the cellular phone than meeting face to face. Both opportunities and risks in terms of positive effects on social developments are associated to the implications derived from usage patterns identified in this survey.

This initial attempt at documenting the effects of mobile usage in Mexico suggests the need to structure an expanded research agenda that examines how the particular institutional and cultural context in which the Mexican pattern of usage in mobile communications is occurring influences its outcome. Will the use of mobile communications contribute to create social capital? Are the potential benefits of using mobile communications contingent upon an initial stock of social capital? Ultimately, it is important to achieve a better understanding of the process of technological adoption and its role on enhancing social participation in the information society.

References

- Dymond, Andrew & Oestman, Sonja (2004), "The role of sector reform in achieving universal access", in *Trends in Telecommunication Reform 2003*, chapter 3, ITU, Ginebra.
- International Telecommunications Union (ITU) (2004a), "Social and Human Considerations for a More Mobile World," ITU Workshop On Shaping The Future Mobile Information Society, SMIS/04, Geneva, February. Available. Online: <http://www.itu.int/osg/spu/ni/futuremobile/socialaspects/> Accessed on May 2005.
- _____ (ITU) (2004b), "Mobile Phones and Youth: A Look at the US Student Market," ITU, Geneva, February. Available. Online: <http://www.itu.int/osg/spu/ni/futuremobile/socialaspects/> Accessed on May 2005.
- Jong, Friso de (2003), "Telecommunications reform in Mexico: an in-depth analysis on the socio-economic consequences of liberalisation of Mexico's telecom services industry", EC 135, Science Shop of Economics, Management & Organization, University of Groningen, Netherlands, Groningen, September.
- Kling, R. (1991), "Computerization and Social Transformations", *Science, Technology, & Human Values*, 16(3), 342-367.
- Mariscal, Judith & Rivera, Eugenio (2005), "New Trends in Mobile Communications in Latin America", prepared for the Annenberg Research Network on International Communication Workshop, 7-8 October.
- _____ (2006), "Organización Industrial y competencia en las telecomunicaciones en América Latina: estrategias empresariales", Working Paper, Economic Commission for Latin America and the Caribbean (ECLAC), Santiago. Forthcoming.
- Market Analysis & Consumer Research Organization (MACRO) (2004), "Study of Mobile Phone Usage Among the Teenagers and Youth in Mumbai," April May. Available. Online: <http://www.itu.int/osg/spu/ni/futuremobile/socialaspects/IndiaMacroMobileYouthStudy04.pdf> Accessed on May 2005.
- Network Economics Consulting Group NECG (2004), "The Diffusion of Mobile Telephony in Latin America, Successes and Regulatory Challenges," Canberra.
- Oestman, Sonja (2003), "Mobile Operators: their contribution to universal service and public access", INTELECON Research.
- Stephens, Robert, Boyd, Jeremy y Galarza, Juan (2005), "Telefonía celular - nuevo instrumento para el acceso universal en Latinoamérica", in *Latin.tel*, Regulatel, Year 1 No. 1, March.
- Telecom CIDE (2006), "Contribuciones Sociales y Económicas de la Telefonía Móvil en México", elaborated for Telefónica Movistar México, Mexico City.
- Telefónica Movistar México (TEMM) (2005), *Datos sobre el Mercado de usuarios de telefonía celular en México*, Mexico City.
- Vodafone (2005), "Africa: the Impact of Mobile Phones", *The Vodafone Policy Paper Series*, Number 2, March.
- Warschauer, Mark. (2003), *Technology and Social Inclusion. Rethinking the Digital Divide*. The MIT Press. Cambridge.

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