ROYAUME DU MAROC
LE PREMIER MINISTRE

ANRT
الوكالة الوطنية لتقنين المواصلات
Agence Nationale de Réglementation des Télécommunications

Information Technologies Observatory

Introduction

The third edition of the national survey initiated by Morocco's National Telecommunications Agency, ANRT, has been conducted on the same pattern as the two preceding editions so as to ensure coherence with the previous results and allow for correct comparisons.
The methodology employed has therefore been the same. The scope of this year's survey, however, enables companies with fewer than 4 employees to be detailed. These are dealt with as a separate group labelled "Independents".
This observatory is geared to achieving several goals:

► To serve as a platform for communicating with outside parties, allowing open access to information on the current state and development of information technologies in Morocco.

► To harvest information to feed the databases developed by ANRT's IT component.

► To be an instrument that enables ANRT to fulfil its international commitments, particularly with respect to requests for information from the ITU (the list of indicators used as the basis of this report was derived from indicators suggested by specialised international organisations, notably the ITU) and the Partnership on the importance of ICTs for development.

► And, finally, to be a tool for imparting knowledge of a currently little-known aspect of Moroccan society and so allow ANRT to fulfil its function as a source of proposals with decision-makers, thanks to the knowledge it can supply on the strengths and weaknesses of Morocco's IT industry.

Data gathering survey for building ICT indicators

A few points on the methodology used

The indicators

The chosen indicators can be classified into three broad categories, according to whether they describe::

- Equipment level
- Internet access
- Internet usage.

The "Individuals" sample

The sample was established taking the Moroccan population's structural quotas into account, and so allowing a breakdown of the population according to:

- Place of residence
- Age and sex
- Location an d size of the town/city
- Socio-economic status of head of household.

The reference base of the population to be polled makes use of a master sample drawn from the latest available census (2004)[1].

The target population is composed of individuals of 12 years of age and over (up to 65), residing in an electrified zone in Morocco's national territory, regardless of nationality. A household comprises one or more individuals living at the same address. When examining the rural setting, the study of this population was confined to individuals living in electrified zones since, for this remote portion of the population, the hypothesis of a lack of IT equipment can reasonably be accepted. Carried out in February/March 2007, the face-to-face survey involved a sample of 1 324 individuals: 868 living in urban zones and 456 in rural areas, with confidence intervals calculated as follows:

- urban: confidence interval of +/- 3.3% with a 95% probability,
- rural: confidence interval of +/- 4.6% with a 95% probability.

The "Corporate" sample

Analysis is based on the results of a telephone survey conducted in February/March 200, with a sample of 406 businesses operating in Morocco. They were chosen through a process of random selection from the Kompass business directory – a database that inventories 10 001 Moroccan business firms according to size and type of activity – to obtain a representative sample of the national structure (89 280 companies, 2002 economic census). The confidence interval of the results is plus or minus 6.2%, with a 95% probability.
Companies with more than 4 employees were classified into one of four sectors:
· The technological sector: Web and Multimedia, Network construction, Integrated Business Solutions, Software development, Mobile (applications and services), Call Centers (CRM), Teleservices and Outsourcing, Equipment, Electronics, IT services, Distance Learning, Consulting.
· The primary sector: Fishing, Forestry/Hunting, Agriculture, Livestock, Agriculture-related activities;
· The Manufacturing/Construction sector: Electricity and water, Oil and fuel, Ore and mineral extraction and preparation, Metals processing, Chemical industry, Food industry, Beverages, Tobacco, Textile and clothing, Leather and footwear, Wood and furniture, Paper and cardboard, Printing, Press and publishing, Building materials and public works;
· The Transport/Services sector: Transportation and communication, Commerce, Finance, Hotels and catering, Service and industry intermediaries and sub-professionals, Real estate, Domestic services, Hygiene, Other services.

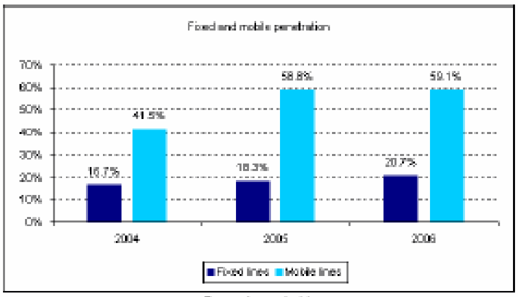
[1] At the time the survey was carried out, population/household forecasts beyond 2004, based on the abovementioned variables, were not available..

The "Independents" sample»[2]

This sample is made up of quotas of categories of professionals. The survey focused exclusively on the liberal professions, of which the individuals concerned are registered in the Telecontact database. The questionnaires were dealt with by telephone in March 2007 among a sample of 100 professsionals in Morocco. The confidance interval is +/- 9.8% with a 95% probability.

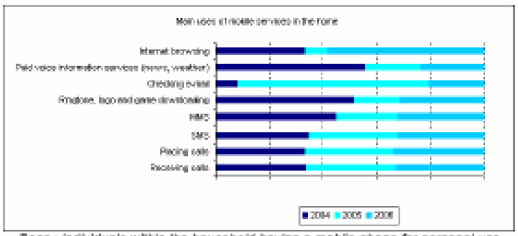
Fixed and mobile telephony

According to the latest figures published by operators, fixed line penetration in the Moroccan population had fallen to 4.24% at year-end 2006 (compared with 4.49% in 2005 and 4.38% in 2004). At the end of 2006, the residential base stood at 813 000 lines, as against 884 546 in 2005.
The survey data enabled the household penetration rate to be evaluated at 18.1% in 2006 (compared with 18.3% in 2005 and 16.7% in 2004). Close to 69% of the households surveyed had no fixed line, while nearly one-third was equipped with one fixed line only; There is very little evidence of multi-equipment: only 1.74% of households possess more than one fixed line. In the area of mobiles, the penetration rate in households rose swiftly between 2004 and 2005, but following this veritable boom, growth in the penetration rate was seen to slow down in 2006. Over-equipment in the mobile sector has been confirmed this year with around 68% of people in the households (as against 61.2% in 2005 and 53.3% in 2004) owning several mobile phones.



Base : households

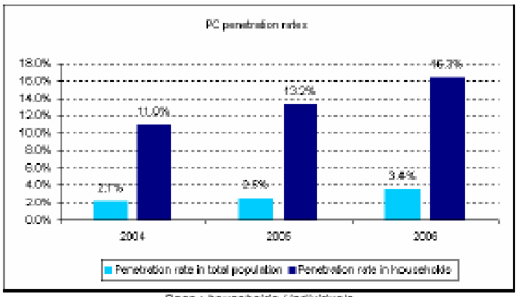
Among the most popular mobile telephony services, and with no special variations from one year to the other, placing and receiving calls continue to top the bill. Nearly 67% of mobile phone owners use SMS, and even though the figure has fallen somewhat compared with last year, it remains by far the most popular value-added service among Moroccans. Users of MMS consist virtually exclusively of urban dwellers, whereas 20% of SMS users live in rural areas. Other value-added services (downloading of ringtones, logos and games, paid voice information services, Web surfing, e-mail) still attract only few users, found chiefly in urban areas.



Base : individuals within the household having a mobile phone for personal use

Personal computer usage

PC penetration in households

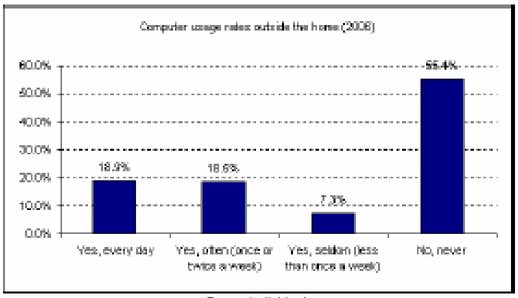


Base : households / individuals

Virtually the majority of people living in rural areas do not have a computer in their home (only 1,8% were equipped in 2006, i.e. scarcely more than in 2005). The situation is far more favourable in urban areas, where nearly 24% have access to at least one computer in the home. The presence of a child can also be of significance, in that children tend to learn how to use a computer while at school and ask to have one at home. In 2006, for example, close to 15% of individuals living in PC-equipped homes belonged to a household with one child or more under the age of 16, an increase of 1.2% over the previous year.
Among those with access to a computer at home, four main reasons for using the computer stood out in 2006: leisure (photos, etc.), home office, gaming and Web surfing. Overall, usage has become slightly more "professionalised" during the past two years: whereas leisure activities were previously given as the main reason, Internet browsing has clearly increased since 2004, chiefly among urban dwellers.

PC access outside the home

Among those interviewed, there was an appreciable fall in the number of people claiming never to have access to a computer (outside the home): 55% in 2006, compared with 64.3% in 2005, i.e. a 10-point decrease. There are now no more than 41% (as against 53% in 2005 and 56% in 2004) of Moroccans over the age of 12 living in urban areas without access to a computer outside the home, while the figure for those in rural areas (in electrified zones) fell to 78% in 2006 from 82.5% in 2005 and 89% in 2004).



Base : individuals

Reasons for non-equipment

Among the five most commonly expressed reasons in 2006 in this context, price was a major obstacle to buying a computer (52.5%, compared with 47.5% in 2005), followed by the lack of need (18.8% as against 27.7% in 2005) and illiteracy (17.4%, heavily down from 36.7% in 2005). On the other hand, having access to a computer outside the home (workplace, school) does not appear as a valid reason for non-equipment.

[2] The sample was confined to liberal professions in the absence of an exhaustive and reliable base for craftsmen and retailers.

The 5 main reasons for not having a computer at home in 2005 – 2006 (as %)

Reasons for non-equipment	2005	2006
Too expensive	47.5	52.5
Illiteracy	36.7	17.4
No need, computer is of no use	27.7	18.8
Too complicated to use	12.1	4.2
Lack of means	3.7	2.2

Base : individuals not having a computer at home

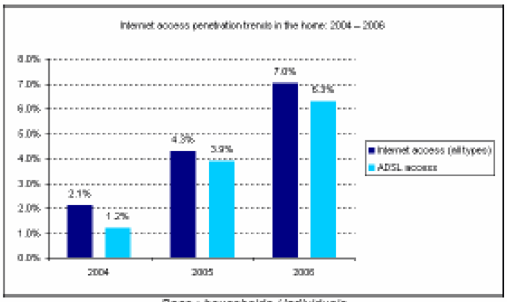
Intentions to buy

Lastly, if the declared intentions to buy are to be believed, an increase can be expected in 2007: while over 25% of respondents in 2004 declared their intention to buy within the coming twelve months, the figure fell by almost two points in 2005 to 23.6%, but rose to nearly 34% of respondents in 2006.

Internet and individuals

Internet at home – heavy take-up of ADSL

Internet access penetration in the home was low in 2004: only 120 000 homes were estimated to have an Internet connection, i.e. a penetration rate of 0.4% for the population as a whole. The corresponding rate rose to 0.8% in 2005 (4.3% of households) with an estimated 240 000 lines (all access speeds combined). In 2006, the number of lines stood at 390 000 (more precisely at the time of the survey in March 2007), i.e. 7.0% of households (or 1.3% of the total population). It should be noted that 62% of households claiming to own at least one computer in 2006 also claimed to have Internet access at home.
Already observed over the past two years, the heavy penetration of ADSL access was again confirmed in 2006, when it accounted for 89% of access in the home, corresponding to 350 000 households, or 1,2% of the total population of Morocco (compared with 220 000 in 2005 and 60 000 in 2004).



Base : households / individuals

In the coming twelve months, close to 28% of households which are still not equipped have plans to obtain an internet connection at home, which represents a potential of one million additional connections should their plans be made concrete.

Socio-economic status remains an undeniable contributor to a household's potential connection to the Web. Nonetheless, a certain "democratisation" compared with 2004 can be observed: whereas the most privileged SES (A, B) accounted for over 80% of residential internet connections that year, they accounted for only 66% of connections in 2006.

The Internaut concept

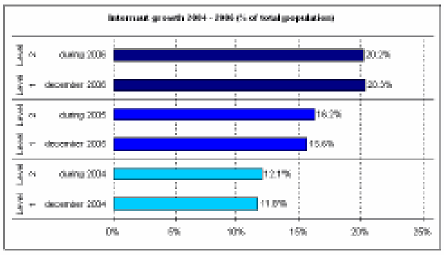
Level 1 and Level 2 Internauts

By its very essence, the notion of Internaut, or Internet user, is difficult to pinpoint precisely. The survey nevertheless established the following two definitions:

- A Level 1 Internaut is an individual who has accessed the internet at least once in the past month, regardless of location and the access mode used.
- A Level 2 Internaut is an individual who has accessed the internet at least once in the past twelve months, regardless of location and the access mode used.

Internaut growth 2004 - 2006 (forecast total population)

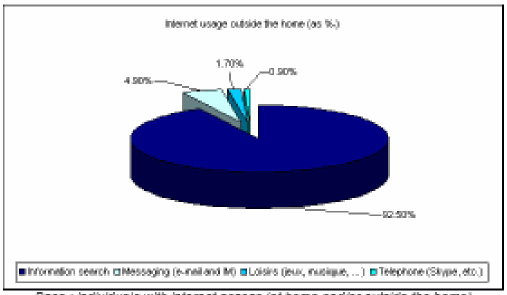
Internauts (million)	2004	2005	Change 2004/05	2006	Change 2005/06
Level 1	3.5	4.6	+31%	6.1	+33%
Level 2	3.6	4.9	+33%	6.1	+27%



Base : forecast total population

Having risen substantially from one year to the next, the number of Internauts (Level 1 and Level 2) stood at around 6.1 million in 2006, compared with 4.6 million in 2005 (i.e. an increase of over 30% in relation to 2004). The figure serves as proof of the Internet boom in Morocco and, more specifically, of the growth recorded in the ADSL sector.

Main uses made of the internet



Base : individuals with internet access (at home and/or outside the home)

In 2004, 96% of individuals with an Internet connection (all locations combined), used the web to perform searches, compared with 91% in 2005 and 92.5% in 2006: entertainment and use of the different messaging applications (IM and e-mail) are among the other uses expressed by respondents.

Obstacles to Internet access

Cost is one of the chief obstacles to accessing the Web: given by 53.5% in 2006, compared with only 41.3% in 2005.

Main reasons for not having Internet access at home (as %)

Reasons for non-equipment	2005	2006	Change
Subscription and communication costs are too high	41.3	53.4	+12.1
Illiteracy or lack of training	37.2	15.3	-21.9
No computer	34.3	10.7	-23.6
No need or use	15.8	7.3	-8.5
Do not know whom to contact	8.5	1.0	-7.5
Availability of a connection outside the home	4.5	2.1	-2.4
Lack of means	3.9	1.7	-2.2

Base : individuals without Internet acces at home

Internet buying

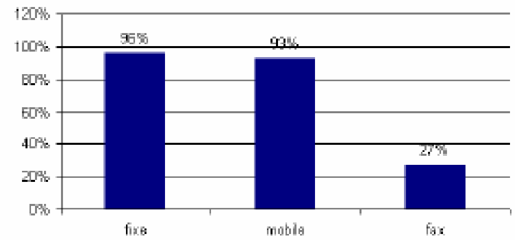
There are few households that practice online buying and only a small percentage of these express any wish to do so in the coming twelve months:

- Among those with Internet access at home/outside the home, 96% have not made online purchases during the past twelve months.
- In 2006, households expressing a wish to make online purchases accounted for only 8% of individuals with Internet access at home/outside the home.

Independents and ICT

Equipment

Taux d'équipement en fixe, mobile et fax



There is a high fixed penetration rate among Moroccan individuals (over 96%). The mobile equipment rate (in the context of professional activity) is also high, but at over 90% it is slightly below the fixed rate. Fax penetration is low, with only 26% of individuals equipped .

Nombre d'ordinateurs utilisé pour l'exercice de l'activité

Base	population enquêtée
0	18.0%
1	43.0%
2	18.0%
3	11.0%
4 et plus	10.0%

The PC equipment rate can be considered high, as onlm 18% of independents go not have a computer.

Internet among independents

42% of the independents questioned have an Internet connection where they practise their activities.

Disposition d'une connexion internet sur le lieu d'exercice de l'activité

Base	Population enquêtée	Population disposant d'un ou plusieurs ordinateurs personnels
Non	58.0%	49.0%
Oui	42.0%	51.0%

During the past twelve months, 71% of the surveyed population hooked up to the Internet more than once. In terms of usage frequency, close to 32% of independents with access to an Internet connection (whatever the connection location) hook up at least once a day and 66% at least once a month for relatively long average connection times (40% claimed an average connection time of between 1 hour and 5 hours per week), while 41% are on line for more than 5 hours per week.

Internet uses among independents

Declared use of the Internet in the context of professional activities concerns information search (96%) and messaging (68%).

Usages d'internet dans le cadre de l'activité professionnelle

Base	Population disposant d'une connexion tous lieux confondus
Rechercher des informations	95,7
Communiquer (messageries électroniques et/ou instantanées)	68,1
Téléphoner (Skype, ...)	39,1
Formation (études, apprentissage personnel)	27,5
Accomplir des formalités administratives	11,6
Loisirs (téléchargement/pratique de jeux musique/films,...	10,1
Banque en ligne	8,7
Achat en ligne	2,9

E-commerce

The poor attraction exercised by e-commerce is found also in this population group (less than 3% have made an online purchase in the last twelve months). Declared intentions are greater, with 33% of independents saying they wished to use e-commerce services within the next twelve months. This reluctance to use e-commerce is mainly due to a lack of confidence in the security of payment systems (30%) and in the reliability of online vendors.

Les raisons de non usage du commerce en ligne

Base	Population disposant d'une connexion tous lieux confondus
Problème de sécurité des transactions	30,4
Problème de confiance dans le marchand	30,4
Prix trop élevé	23,2
Pas d'utilité/usage	20,3
Disponibilité des produits	11,6
Ne dispose pas d'une carte de paiement internationale	8,7
Absence de services de vente en ligne	5,8
Autres (délais de livraisons, pas informé ...)	5,8

Focus on change of mobile operator: reaction of independents and households

To accompany the implementation of mobile number portability in Morocco, the survey this year included a series of questions put to households and independents concerning change of mobile operator, its motivation and obstacles in its path.

Independents

On average, independents are satisfied with their mobile operator. Only 6% changed operator in 2006, chiefly because of price considerations. Relatively few expressed any intention to change and obstacles to change are only to a small extent due to the risk of losing one's number. The main reason for not changing is satisfaction with the current operator.

Les raisons qui conduisent à changer

base	Population ayant changé d'opérateur en 2006
Le prix des communications	50,0
Une offre promotionnelle d'un opérateur concurrent	50,0
Une meilleure couverture réseau	33,3

Les intentions de changement d'opérateur dans les 12 prochains mois

Base	Population enquêtée
Oui	31,0
Non	53,0
Ne sait pas	13,0
Pas de réponse	3,0

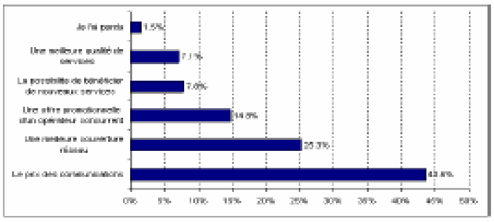
Households/ individuals

Personnes ayant changé d'opérateur mobile en 2006 (%)

Churn (%)	2006
Oui	13.5%
Non	86.5%

Base : Individus disposant d'un téléphone mobile

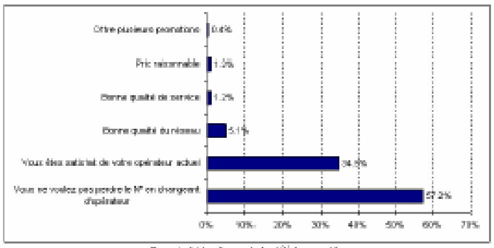
Tha rate of churn among respondents stands at 13.5%, which does not seem high when compared with values found in the countries of Europe, where the average figure is around the 20%-mark. It is interesting to note that nearly 21% of respondents expressed a wish to change operator within the next twelve months, as this rate comes closer to the abovementioned figure for the European markets. .



Base : individus disposant d'un téléphone mobile

Among the main reasons given for justifying a change of operator, the price of communications heads the list, followed by network coverage problems and, to a lesser extent, the chance of profiting from the promotional offers of a rival operator.

Freins au changement d'opérateur mobile (2006-07)



Base : individus disposant d'un téléphone mobile

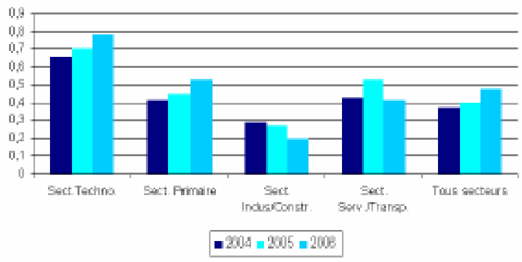
The chief reason put forward as an obstacle to changing operator is the fear of losing one's number.

Businesses and ICT

IT equipment in business firms

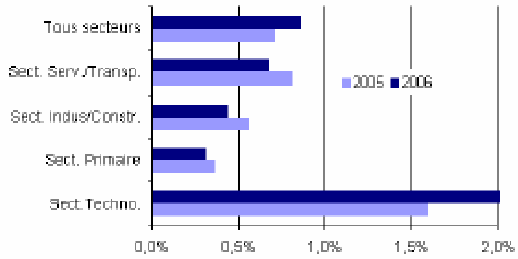
The average number of computers per employee has risen to 0.48 from 0.40 in 2005. However, this average ratio for all sectors combined conceals wide disparities from one sector to another.

Ratio of computers to employees

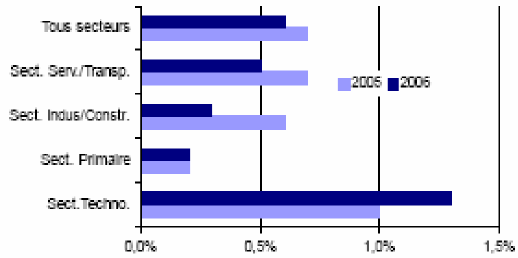


Investment and ICT

The importance that businesses place on ICT penetration was measured by the level of investment in ICT hardware and what proportion of the training budget was devoted to specific ICT training. It is interesting to note that ICT spending has increased on average, while investment in training staff is down in comparison with the previous year.



ICT's share of training budget

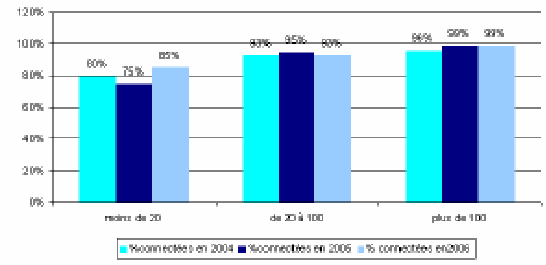


Internet and businesses

Internet connection

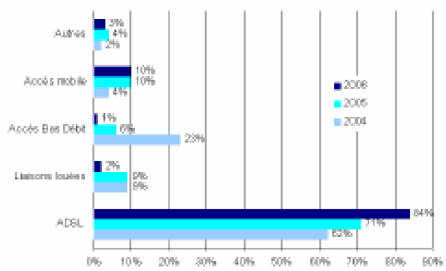
On average, 91% of businesses are equipped with an Internet connection. An analysis of connectivity according to company characteristics (sectors and personnel size) reveals a lower connectivity percentage, but which is on the increase in the case of businesses with fewer than 20 employees.

Percentage of businesses equipped with an Internet connection



Although the number of businesses equipped with an internet connection has grown very little compared with 2005, connection modes are changing, with a growing number of companies opting for ADSL, to the detriment not only of PSTN connections but this year also of leased lines. ADSL now accounts for over 84% of businesses (as against 71% in 2005, while PSTN connections have at the same time fallen to below 1%. Connections based on leased lines now account for only 2% of the total.

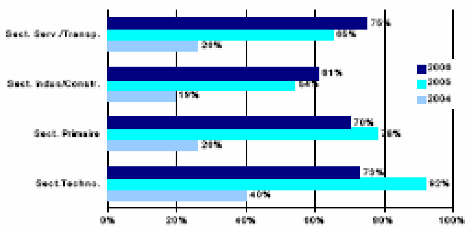
Internet connection modes used by businesses



Personalised access to the Internet

The main indicator used to measure the degree to which employees have access to the internet was established by the ratio of the number of desktop computers connected to the Web to the company's total number of computers. An interesting development this year is that the proportion of work posts connected to the Internet has stabilised at around 70%. However, this convergence has chiefly benefited executive staff. On average, 70% of the computers in companies with an internet connection had access to the Web, compared with 62% in 2005.

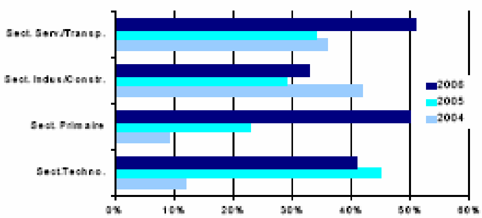
Proportion of office computers connected to the Internet



Internet usage in the company

Apart from statistical devices that can be used to explain certain "small" atypical variations (a fall in the Technological sector), the Intranet is tending to become a common feature in business firms.

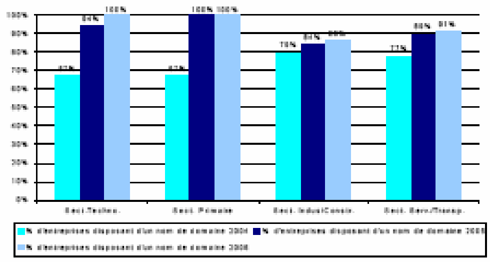
Proportion of businesses equipped with an Intranet



Websites and domain names

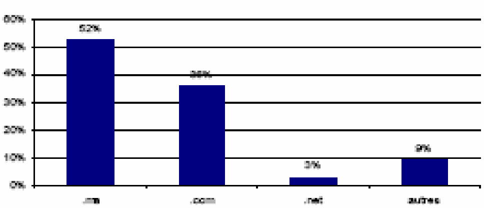
Of all the companies polled, 42% report that they have a Website (compared with 43% in 2004). There has been a continuation of the "professionalisation" trend observed last year, with 94% of businesses now having their own domain name.

Proportion of businesses with their own domain name



Among these domain names, the most widely used extension is .ma, followed by .com

Domain names used by Moroccan business firms



e-commerce

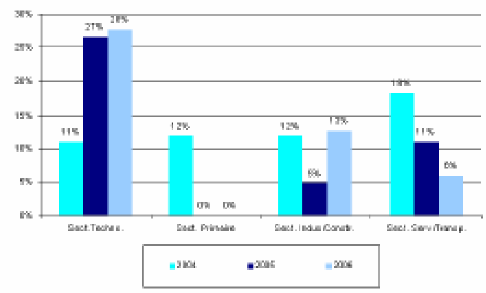
As was the case last year, e-commerce continued to be the stumbling block, a practice that appears unable to get off the ground.

Online purchasing

Of all the companies polled, around 12% report that they have made purchases online (compared with 9% in 2005). So despite a slight increase, e-commerce has failed to make satisfactory inroads in business firms. The only positive element is the rise in the proportion of purchases made on line. Among the companies claiming to practise online purchases, these now account for over 4% of overall spending in 50% of cases, while in 2005, the sum spent on these purchases did not exceed 20% of total company expenditure in 95% of cases. Thus, although there are only few companies that make online purchases, for those engaged in this practice the volume of spending involved is greater.

The "Technological" sector seems to be the only one making real use of "B to B" services, with 28% using the system, compared with an average of 12% in other sectors. The predominance of this particular sector could be attributed in part to the fact that the products central to the sector (software, high-tech hardware) are by definition more likely to be bought online from foreign sites..

Proportion of companies purchasing on line



Lastly, its should be noted that the notion of online purchasing does not necessarily involve payment on line, since 88% of the businesses concerned just do their ordering on line without actually paying for their orders on line.

Online sales: practices, volume and intentions

In the same vein as online purchasing, online selling, too, is struggling to take off. Less than 5% of businesses claim to practice this form of selling (i.e. the same proportion as in the previous year). The use of virtual shopping malls is nonexistent, while 99.3% of firms practising online sales do so via their own website. But as in the case of B to B, the volumes involved are greater, as these sales now account for over 10% of revenues of the firms concerned.

Proportion of businesses practising online selling