

E-Informality in Venezuela: The ‘Other Path’ of Technology

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The study explores arguments concerning the concept of the informal economy and makes the case that new media technologies, or more broadly, information and communication technologies (ICTs), as a socio-economic phenomenon, tend to be exploited in the same way as other economic activities by those actors that operate in the informal economy. Moreover, this exploitation tends to show similar patterns in terms of growth and ownership concentration. In this context, the study analyses the patterns and tendencies that transpire when informal actors exploit ICTs. It aims to question the validity of the neoliberal paradigm that portrays informality and new media technology as a creative process that requires deregulation. The article is based on a field study carried out in Venezuela between 2003 and 2004.

Keywords: Economy, formal, ICT, informal, Venezuela, ethnography.

Introduction: New Technologies in the Informal Market

In this article, we identify and analyse two major discursive components apparent in the formation of the neoliberal approach to development strategies in the developing world: informality and the introduction of new media technology. By focusing our research on developments in Venezuela, we highlight how these two components act as a justificatory device, seemingly designed to evade the traditional barriers of the rich-poor divide by means of deregulation and privatisation. The first component, informality, has been linked to the lack of property rights and overall bureaucratic obstacles that restrict individual initiative (De Soto, Ghersi and Ghibellini, 1986). In this narrative, the regularisation of property rights and de-bureaucratisation are fundamental to a process of re-introducing informal actors to the formal mechanisms of production and distribution. Furthermore, the logic of the discourse argues that this process would

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allow governments to utilise the dead capital produced in the informal economy, so as to liberate its enormous creative potential for economic growth (De Soto, Ghersi and Ghibellini, 1986). The term 'dead capital' refers here to unrealised capital potential, that is to say, assets that are present, but for some reason or other, cannot be used. In theory, by unlocking the potential of dead capital informal actors could go on to finance entrepreneurial activities within the formal sector (De Soto, 2001).

The neoliberal discourse defines the informal economy as a group of underground activities that have legal ends, but employ illicit means (Ghersi, 1997). They are activities that do not intrinsically have a criminal content, but must be carried out illicitly, even though they are arguably legal and desirable activities. Therefore, in order to conceptualise this phenomenon it is important to recognise the ethical and normative dimension of these types of economic activities. Coase (1960) established the connection between institutions, transaction costs and neoclassical theory. North has shed light on the implied cost to institutions with regard to economic activities and argued that only under conditions of costless bargaining will the economic actors reach the solution that maximises aggregate income, regardless of the institutional arrangements (North, 1990). Following this logic, Ghersi (1997) has proposed that it is the inefficiency of the law – or cost of legality – that creates exclusion. Law and institutions have a cost like everything else, as well as the amount of time and information necessary for compliance. Entrepreneurs rather take the risk of operating on the margins, so long as the probability of the punishment cost remains lower than the cost of legal observance. In the informal economy, the agents decide to operate outside the rule of law because it is too costly to do so within the normative remit. De Soto (2001) identified the growing phenomenon of Peru's large informal economy as a spontaneous and creative response to the bureaucratic state's inability to satisfy the basic needs of the masses. He regarded the informal market as an energetic solution to the problem of too much costly regulation and legality, and concluded that the entrepreneurial endeavours of the informal sector amounted to little more than dead capital. His suggestion to governments and policy makers was a striking neoliberal recipe: without property rights and deregulation, informal actors remained locked out of the benefits of the formal economies. The following quote from the online publication *Reason Online* proposes that this thesis is generally applicable to the developing world:

Throughout the Third World and the formerly communist countries, neighbourhoods buzz with hard work and ingenuity. Streetside cottage industries have sprung up everywhere, manufacturing anything from footwear to imitation Cartier watches. There are workshops that build and rebuild machinery, cars, even buses. In many countries, unauthorised buses, jitneys, and taxis account for most public transportation. Often, vendors from the shantytowns supply most of the food available in the market, from carts on the street or from stalls in buildings they built themselves. The new urban poor have created entire industries and neighbourhoods that have to operate on clandestine connections to electricity and water. (De Soto, 2001).

De Soto (2001) draws a historical parallel between the colonist squatters of North America and the current situation in much of the developing world. He argues that

progress cannot be made while formal law is unable to keep up with popular initiatives and the creative responses of informal entrepreneurs. Accordingly, development is tied to a necessary transition from extralegal activities to the absorption of extralegal arrangements into official statutes:

People are locked out of the formal-legal economy because of heavy bureaucracy, corruption and mainly high cost of operating legally; they have houses but not titles; crops but not deeds; businesses but not statutes of incorporation. (De Soto, Gherzi and Ghibellini, 1986: 31).

In general terms, the informal sector has become increasingly important in Latin America, especially in urban areas. Maloney points out that the small-scale, semi-legal, often low-producing and frequently family-based enterprises employ between 30 and 70 per cent of the urban work force across Latin America (2004). While this number varies from country to country, it is clearly a very significant percentage of the region as a whole. In Peru, De Soto calculated that it was equivalent to 38 per cent of gross domestic product by the 1980s, and that at least 60 per cent of working hours were in the informal sector (De Soto, Gherzi and Ghibellini, 1986). Indeed, the Peruvian informal economy dominates much of the overall economy, notably in housing and transportation. Other economies in the region, such as Venezuela and Colombia, reflect these same patterns. Furthermore, in both cases, the proportion of the economic agents that have been displaced to the informal economy has increased in recent years (Figure 1).

In the case of Venezuela, informal activities not only represent an important proportion of the labour market, but also of the economy as a whole. According to public and private estimates, 15 per cent of GDP produced in 2000 was by the informal sector, which in itself is a significant number because oil, the main export in this country,

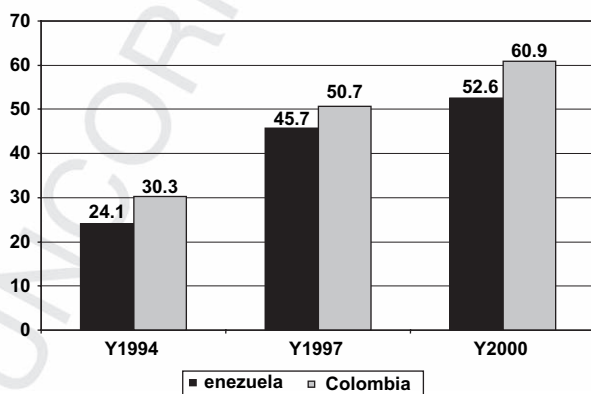


Figure 1. Comparative Percentages of the Urban Population Working in the Informal Economy in Venezuela and Colombia

Source: Based on estimates made by the Global Labour Institute (Rosales, 2003)

generates 18 per cent of the gross domestic product (GDP) (UAEI, 2004). According to official statistics almost half (46.5 per cent) of the labour force in Venezuela is employed in the informal sector (INE, 2006). This largely urban phenomenon grew exponentially as a result of the economic downturn in the 1980s. During this decade, a sharp decrease in the price of oil and other raw materials that represent the majority of Venezuela's export income led to the country falling behind in payments to international debtors and a dramatic fall in public spending and private investment. The worsening situation led to the implementation of the IMF-World Bank-designed austerity programmes, which had a notable impact on employment. These programmes, shaped by what has been termed the Washington Consensus, opened up the already fragile sectors of the Venezuelan economy to international competition, ensuring that many of those previously employed in rural areas had to move to the cities in search of work in the informal sector. Therefore, it is not necessarily the cost of legality that pushes people into informality, as De Soto and others have argued, but other factors, such as an economic crisis and the negative impact of international commerce, which can profoundly expand the informal sector.

The second component of neoliberal discourse, new media technology, has been contextualised in terms of globalisation, post-industrialism and the so-called knowledge society debate (Sampson and Lugo, 2003). For this part of the discursive narrative, a crude form of technological determinism promotes institutional modernisation by means of the democratisation of information. According to this view, new technologies produce opportunities for wealth creation, allowing the disadvantaged to bypass traditional geographic and economic barriers and become part of an army of portfolio workers (Drucker, 1993). In this way, new media technology supports the neoliberal drive to free the forces of economic creativity and growth by means of deregulation.

The role of both new media technology and the informal economy in post-industrial society has been widely discussed (Gershuny, 1977, 1979). It has been argued that technology – together with economic and cultural forces – encourages the growth of informal sectors (Gershuny, 1979: 14). Castells (1989) pointed to the emergence of grassroots organisations as essential components of the informational city. The concept of the informal actor has become interchangeable with the small-scale new media entrepreneur, who can enter the larger new economy by setting up an Internet-based 'dot com' business in a similar way to a street vendor who exploits and profits from the markets of opportunity. Florida (2002) argues that these technologies have led to the rise of a creative class in modern society. He argues that technology plays a pivotal role in establishing low entry barriers for new actors, because such creativity becomes an important commodity in society. More recently, studies have focused on the exploitation of new technologies by small actors in the developing world. Donner (2004), for example, has studied the use of mobile telephones by micro-entrepreneurs in Rwanda. By applying a similar logic to these informal actors, new technology becomes both an expression of and pivotal driving force behind economic creativity.

However, despite the apparent ascendancy of this discourse, other authors have pointed to contradictions in its logic. Indeed, informal actors can be both potential entrepreneurs, exploiting market opportunities, as well as excluded members of a labour force that is in itself exploited at the margins of society (Tokman, 1992, 1996).

In addition, the liberalisation of dead capital can lead to even more informality (Itzigsohn, 2000). Such studies suggest a need to make a more critical analysis of the role of new media technology in the informal sector: a research strategy that sidesteps the assumptions of the neoliberal discourse.

Methodology: Case Studies in Caracas and Maracaibo

Using examples from Venezuela, we aim to explore the use of new media technologies, or more precisely, information and communication technologies (ICTs) in the informal sector. The use of ethnography as a method to analyse informality in relation to the economic functioning of formal institutions is derived from a form of economic anthropology originating Polanyi's significant distinction between substantive economic activity – making a living – and the formal economy – the logic of the market itself (Polanyi et al., 1957). Ethnographic study highlights the cultural narratives that emerge from the process of digital diffusion in the developing world by illustrating how individuals and communities promote self-organised economic and technological activity. Such responses are often tied to the way in which the formal economy retains entry barriers for informal actors. De Soto's concept of the informal economy is thus assessed as a resourceful response to the state's inability to satisfy the basic needs of a society, as well as the supposed egalitarian nature of the ICT market in this informal environment.

The focus on Venezuela, specifically Caracas and Maracaibo, arises from an earlier research project that highlighted the quantitative intensification of the gap between information-rich and information-poor in the region, in spite of significant investment. The cases of Venezuela and the UK were compared between 1990 and 2000, a period in which the UK increased from less than one in a thousand people connected to Internet to having almost half of its population online. In that same period, only 5 per cent of the Venezuelan population became linked to the Internet (Source: Office for National Statistics, 2001; CONATEL, 2001). As exemplars of being numerically on the 'wrong side' of the digital divide, Caracas and Maracaibo are used as case studies to observe the emergent digital economy. The inhibitive cost of legality and lack of ownership rights open to small entrepreneurs ensures that informality thrives in the digital sector (Tanzi, 1982).

The self-proclaimed socialist president of Venezuela, Hugo Chavez, has become a focus of attention for international media following a series of institutional changes and economic reforms designed to tackle poverty using national oil reserves. The decline of traditional manufacturing and the agricultural sector, combined with the structural limitations of the country's service sector, has resulted in 50 per cent of the population being paid less than US\$5 per day, and the country has an official unemployment rate of 11.4 per cent (INE, 2005). However, the recent expansion of the public sector and the increase in international oil prices has allowed a significant fall in unemployment. We should also add that GDP has grown at a rate of 5 per cent on average in the past three years.

The central point of focus for our ethnographic study has been the informal points of exchange – places we call the unofficial cyber-informal centres – THAT operate as

alternatives to the formal telecommunications centres of Caracas and Maracaibo. One hundred anonymised interviews, supported by field observations, were undertaken by the authors in cyber-informal centres in Maracaibo and Caracas between December 2003 and January 2004. The informal centres are typically located alongside the Centro de Comunicaciones run by the Venezuelan national telephone company (CANTV), the former monopoly operator before the deregulation of the telecommunications market in 2000. Since our research was carried out, CANTV was re-nationalised in 2007. Current indicators suggest that the change in policy in 2007 has thus far had a minimal impact on the informal sector. Similar to the official sites of exchange, cyber-informal centres offer telecommunications services in a single location, including telephone calls, access to the Internet, the sale of telephone cards, electronic transfer of money, fax services and photocopies. However, unlike the formal Centro de Comunicaciones, cyber-informal centres operate outside the legal framework offering informal services including the sale of pirated copies of computer software and entertainment DVDs.

Between December 2003 and January 2004, 100 cyber-informal centres were surveyed in the cities of Maracaibo and Caracas. Ten of them became the focus of participatory observations and the central theme of semi-structured interviews. None of these cyber-informal centres fulfilled the legal requirement to notify CONATEL about their operations. This was avoided in order to bypass registration fees and taxation. Therefore, there are no reliable statistics regarding the number of informal actors exploiting ICTs as their primary source of income.

ICTs: New Centres of Informality

Two main conclusions can be drawn from our findings. First, in the context of the informal economy, ICTs are exploited in much the same way as other products and services. Second, and more significantly, the initial demand for intensive capital investment required for an ICT business start-up is higher than in other sectors. 'Intensive capital investment' refers to a situation wherein a business requires the reinvestment of capital (sometimes in excess of the profit made from sales) at a faster rate than inflation in order to restock itself. In these situations, small actors are often unable to keep pace with the needs of reinvestment and have to sell out to larger actors who can afford intensive capital investment. These additional requisites and resources thus may exclude individual actors almost from the very start. For example, while a *buhonero* [street vendor] in Venezuela may work for commission on merchandise sold on the streets, the ability to rent a mobile telephone as a basis for setting up a calling service requires access to a credit card. Thus, the informal exploitation of ICTs produces higher entry barriers than other informal activities, such as food or clothing retail.

The findings also indicate that since the technologies used are mostly imported, access to hard currency becomes a barrier to individual ownership: 73 per cent of vendors working in the cyber-informal centres answered that they did not own the mobile telephone or computer in use, but were employed by a third person. By cross-referencing

surveys, it was observed that these third-party actors owned more than two cyber-informal centres, while 16 of the remaining 27 independent centres were set up by professionals who had become unemployed during the past 36 months, largely due to the economic crisis of 2002. These individuals operated mainly from small garages and public spaces (Figure 2).

Interviews by the authors with executives of telecommunications companies in the formal economy who offered similar services (CANTV, Telcel and Movilnet) indicated that they were fully aware of the existence of the informal actors and their role in exploiting their products and services. A marketing executive of Movilnet in Caracas added that there was 'very little that they could do about it since it was too widespread' (interview, 10 January 2004). Nonetheless, the relationship between the formal corporation and the informal actors appears to be far more complicated.

As a result of state requirements by the National Telecommunications Council (CONATEL), telecommunications companies are obliged to establish public centres to provide access to landlines and mobiles, and also to the Internet. In theory, these centres might be threatened economically by the emergence of competitive cyber-informal centres. However, the informal and formal info-centres co-exist with each other in close spatial proximity, in a similar way that clothing stores co-exist with street vendors in the streets of Maracaibo and Caracas. For the formal info-centres – in most cases partially owned and managed by the telecommunications corporation – the profits from these centres are marginal compared to their whole operation, and the centres are kept in operation as a legal requirement to guarantee access to these technologies in the same way as telecommunications companies are often required to maintain public telephones (interview with a CANTV executive, 10 January 2004). In the case



Figure 2. A Cyber-Informal Centre. The attendant offers mobile and landline phone calls.

of cyber-informal centres, which can be a single person in a chair with a mobile telephone (Figure 2), the cost of operation is conveniently very low. For instance, there is little cost arising from a failed business or lost opportunity in terms of labour or infrastructure expenses.

Software and entertainment piracy arguably impact negatively on the formal music and software industries in Venezuela. The Sociedad de Autores y Compositores de Venezuela (SACVEN), the main union of musicians and composers engaged in protecting copyright in Venezuela, proposed that 85 per cent of the videos and music CDs in Venezuela are illegal copies, while 72 per cent of the software installed on computers is done so illegally. The telecommunications industry, however, has increased income considerably over the past few years. CONATEL (2005), the main private telecommunications corporation operating in Venezuela, reported a sustained income growth between 1997 and 2003, rising from US\$2.5 million in 1997 to US\$4.7 million in 2001, and maintaining a figure over US\$3.2 million since then. The main actor, the formerly state owned monopoly CANTV, with 10,000 employees, announced a net income for 2003 of almost US\$12 million, which represented a net growth of 60.4 per cent for that year. Mobile subscriptions have grown exponentially – increasing from 1.1 million in 1997 to over 20 million by 2006 (CONATEL, 2007).

The executives interviewed in our research generally admitted to ignoring the increasing number of informal actors. The main reason is that they are unable to sustain their own legally operated telecommunications centres that offer Internet access. The number of these Internet connected centres decreased from 122 in 2001 to just 31 in 2003 – at a time when the demand for private subscription to the Internet had a marginal increase of 20,000 subscriptions (CONATEL, 2004). Nevertheless, the number of telecommunications centre operations offering telephone services increased from almost 600 in 2001 to 800 in 2003. This suggests that telecommunication corporations are concentrating on more profitable landline and mobile technologies, while transferring the obligatory Internet connection to the informal sector and other small actors.

While there has been an increase in the number of the overall telecommunications centres, there has been an important decrease in terms of access to the Internet (Table 1). While the number of users of the Internet has dramatically increased – from 1.4 per cent of the population in 1998 to more than 6 per cent in 2003 and the number of Internet Service Providers (ISPs) has increased from thirteen to seventeen in that time – the number of legally operated info-centres offering access has decreased in that same period (CONATEL, 2004). Maintaining centres that concentrate on Internet access is not profitable because these businesses require more labour input and higher legal costs. In this sense, the decline in Internet access centres supports the views of the telecommunications executives, as one commented:

Offering telephone calls is okay, after all, you only need two or three operators for the week and in certain cases you just need someone to sit and watch the customers. But the Internet is a completely different matter. The profits are too marginal if there are profits at all. (Interview with authors, 10 January 2004).

Table 1. Telecommunications Centres in Venezuela

Centres	2000	2001	2002	2003
Telecommunications Centres	93	596	796	1123
Internet access centres	19	122	75	31
Total	112	718	871	1154

These centres include the Infocentros, Centros de Comunicaciones (CANTV) and Centros de Conexiones (Telcel). Source: CONATEL (2004).

Cyber-Informal Centres and Piracy

Despite a growing market for the Internet, with an extra 1.2 million additional people using it on a regular basis, the telecommunications corporations admit that it is difficult to sustain their public information centres. It seems that this is not a problem of price competition, since in most cases prices are fixed in both the formal and informal sectors, but instead one of operating costs. Informal actors can also offer sales mobility and additional services that would infringe copyright. Cyber-informal centres do not offer independent telecommunications services, but instead rely on the three main corporations. Therefore, they do not compete in terms of price. Nevertheless, they are more sustainable over time because profit margins can keep pace with increasing operational costs. In addition to this, the centres provide a degree of flexibility with regard to pedestrian traffic and market potential. Unlike their formal counterparts, the centres can be easily dismantled and relocated. Moreover, one of the most important advantages is their ability to offer additional formal and informal products and services. This challenges the viewpoint that informal activities merely provide an illicit means to a legal end (De Soto, Ghersi and Ghibellini, 1986). Piracy plays an important role in making cyber-informal centres sustainable. Cyber-informal centres overlap in terms of operation, not only offering access to mobile telephones and Internet navigation, but also providing other services such as illegal copies of music CDs and software CD-ROMs, a key aspect of the market according to 61 of the 100 interviewees.

The main ICTs exploited were landline and mobile telephones, with 64 of the cyber-informal centres surveyed selling telephone cards or renting lines; music CD and software CD-ROM piracy were provided by 56 centres and Internet navigation available at 24. In most cases, the centres offered more than one service (83), though some (27) provide only one service. The single service or product providers mostly dealt with telephone cards, and pirate copies of music-CDs and software-CD-ROMs. However, none of the centres surveyed was concerned about criminal prosecution and in several cases said that some members of the law enforcement agencies were regular customers. Few of the centres surveyed directly admitted to paying authorities to avoid prosecution for tax evasion, but many commented that widespread corruption was an issue. One of the interviewees was explicit regarding this:

Sometimes the police come and look around asking for my permit. But I know that what they are really after is a free call. I give it to them and they stop bothering me.

This type of practice carried out by the law enforcement agencies is widely regarded as consistent with past experiences in the informal economy. Similar corruption has been observed in the trading of traditional products and services offered in the informal economy. As another interviewee who operates informally from a garage adjoining her house pointed out:

I now sell cards for mobiles and also rent this mobile for people to make calls and inside we have a computer with access to Internet. I used to sell clothes but not anymore. Sometimes we get one or two inspectors from the city council, but we just pay them and they leave us alone ... they [the inspectors] already know who we are.

Piracy practices, in these cases, are not limited to infringing copyright by supplying popular music, films and software downloaded from the Internet, but also include a variety of on-demand services both for software and hardware. These services include downloading, on request, illegal copies of specialised professional software, cloning stolen mobiles and adapting DVD actors. Indeed, a number of these cyber-informal centres (21 in total) provided technical services to upgrade hardware devices such as PlayStation®, Xbox® and DVD equipment. The latter includes adaptations that allow customers to play pirated content from different international regions as well as conforming to various international television standards. The centres also specialise in altering telephone cards so that stolen or recycled mobile telephones can operate within an existing network, using 'pay-as-you-go' schemes. These are relatively sophisticated operations that require a high degree of knowledge and understanding of both the hardware and the software technology. Some of the people offering these services are owners, while others have been instructed in the necessary procedures of downloading, upgrading, card installation and cracking codes. They also have access to a wide variety of cards and other types of hardware that allow them to break into mobile networks or adapt specific devices to provide additional services (i.e. devices that allow customers to view scrambled signals of premium channels such as HBO, Playboy, etc.) There is evidence that many of the cyber-informal centres are exploiting niche markets. One operating near the Guaicaipuro Market in Caracas specialises in adapting the 'PlayStation' games-playing platform. Another overwrites codes on game consoles to allow the playing of games from both Europe and the USA. This, according to one of the attendants, gives the customer a wider choice and also adds competition in terms of their own illegal distribution network:

We get stuff for PlayStation coming from Colombia, which is mostly from the US. But also there is a good stock coming from Aruba, Curacao and Trinidad, which is mainly of European origin.

More recently, cyber-informal centres have widened their activities to incorporate multi-area adaptation services to other devices such as the Xbox game console. Clearly, the issue of piracy among informal traders of ICTs needs to be explored further. The difficult task of measuring the quantity or fully understanding the nature of the products

and services in which informal actors are engaged could undermine the view of some authors that international agreements are leading to substantial increases in the level of protection in rich and poor countries (Shadlen, Schrank and Kurtz, 2005). Our current study of the informal economy in two cities points towards a wide range of activity that demands a reassessment of the assumptions made with regards to international agreements, law enforcement, international political economy and intellectual property.

Significantly, in our field study, informal actors have demonstrated an ability not only to adapt to technological changes and challenges, such as the trend towards on-demand media services, but also to create novel service infrastructures that their counterparts are legally unable to offer. There are three main observations to be made with regards to this. First, these infrastructures are not only flexible, but also technologically convergent. For example, by appropriating digital content (the code), informal actors are able to offer multi-platform services. Second, these infrastructures are widely networked across the urban spaces in which they operate. When asked about services that were not in stock, many of the attendants would make a telephone call, not necessarily to wholesale distributors, but to other informal retailers in the area. One fourteen-year-old client who wanted to buy a popular ring tone (known as the 'Crazy Frog') for her mobile telephone exemplified this point. Despite the fact that the popular ring tone had been licensed in mid-2004 by the German-based Jamba! Group, by early 2004 it was already widely available in Venezuela throughout these informal networks of retailers. In this particular case, the retailer, located in the Playitas Market in Maracaibo, did not have the ring tone, but after making a call it was emailed to him in a matter of minutes. When we asked where the ring tone came from, he said it was sent by another retailer in the same market. Third, it is important to point out that informal networks have access to most products and services available in the formal ICT market. These are often illegally downloaded from the Internet in specific centres or purchased abroad by those with links to international networks of software piracy. Therefore it is not uncommon to find that many of the cyber-informal centres are able to obtain rapidly the most recent digital products on the market.

Informal Networks

These examples illustrate the collaborative character of informal networks, wherein competition cannot simply be understood in terms of traditional market practices. To further demonstrate the collaborative nature of informal networks, we point towards the tendency of competing informal networks to support each other. These associations represent an important difference between formal and informal sectors. In the latter case, collaborative practice is frequently facilitated in the flexible environment of informal supply and demand. In the former, it is the rigidity of the formal supply chain that constrains the elasticity of an actor's mode of association. Significantly, many collaborative practices are derived from the nature of the association within a familial or other social network. Since the wholesale distribution of these products and services presents a very different business model, researchers in these areas should reassess the

validity of certain assumptions concerning market rules and categories when it comes to the piracy of ICTs within informal sectors. Indeed, there is a complex system of business models that co-exist in these informal networks. In some cases, operators require traditional distributors. In others, new media services and products do not require wholesale distribution beyond that provided directly by the telecommunications companies, and in some cases no distribution is required at all.

This often-complex co-existence of business models has particular significance in shaping the ethnic composition of the distribution model of new media technologies. While in traditional relations of wholesale/retail distribution there were certain groups that have dominated particular activities: for example, Chinese and Middle Eastern-origin communities have had a significant representation in wholesale, while other groups such as Colombians, Peruvians and Guajiros have a strong representation in street retail. This form of division is not necessarily the case for the distribution of new media technologies. Instead, in our study, ethnic background seems to be more diverse and less relevant in determining networks of distribution or wholesale. To a certain extent, these emerging informal activities map onto one familiar aspect of the knowledge economy model. It is the operators who have the know-how to download, copy and crack codes that will become best positioned to profit from such knowledge.

Female workers are highly visible in the operation of many of the cyber-informal centres in Caracas and Maracaibo (54 female workers and 46 male workers were interviewed). However, further research into the role of attendants, including the role of females, would be needed, as there is not sufficient evidence in our field study to support a detailed analysis of gender roles in these types of knowledge-based activities. The age ratio is variable, but it is clear that people under 30 and over 50 years tended to be informal workers, while those in the years between tended to be owners. In other words, the first group (-30 and +50 years) were concentrated in the 73 centres owned by a third party, while the rest (ages 31–49 years) were mainly proprietors or partners running their own business. Most of this latter group were former traders or professional workers who had become unemployed during the past 48 months. There is further supporting data to suggest that the pauperisation of Venezuela's middle class has played a significant role in social mobility in the informal sector (Barreiro, 2005). The increasing presence of former traders or professional workers might therefore be regarded as a result of ongoing economic crisis (Barrios, 2004: 158). Others have argued that their appearance in the informal sector marks a decreasing sphere of career options in the formal sector, and further embodies the decline of working conditions in Venezuela (Saade, 2005). None of the informal workers interviewed had any type of incentive or benefit beyond their weekly wage. Moreover, almost all of those interviewed said that they are unable to find another job.

In terms of pay, although in most of the cases the cyber-informal workers are paid in cash on a weekly basis (at a rate below the national average wage), none were offered commission on sales made. This is another important difference with regard to other more traditional informal activities where workers often sell merchandise (newspapers, clothing, electronic appliance, toys, etc.) on a sales-commission basis. In other words, while in traditional informal activities most workers are treated as salespersons with the usual incentives, in those activities exploiting ICTs, workers tend to

be considered as mere attendants. This also limits the flexibility with which the cyber-informal workers operate in terms of negotiating prices and services.

Finally, it is important to highlight the similarities between the cyber-informal centres and their more traditional informal counterparts. They are both commercial operations that can be typified as part of the economy of proximity. They are rarely legally registered and in most cases they operate within domestic boundaries, which keep costs manageable for the operators. Within these boundaries, costs are absorbed into household budgets in conjunction with other informal activities and incomes fed into domestic accounts or informal cash flows. Indeed, it is important to underline that many cyber-informal centres show similar characteristics to those family-owned business described by authors when referring to cases elsewhere (Mariussen, Wheelock and Bains, 1997). However, while a significant proportion of the people who work in the cyber-informal centres are related in some way to the owner(s), this was not the case for the majority.

Conclusions

Taken as a whole, these examples suggest that in their exploitation of ICTs, informal actors tend to adopt similar patterns of practice to those embraced in the formal sector. Indeed, some authors have pointed to the way in which a small business operation can only be understood in terms of a broader social and economic context (Mariussen, Wheelock and Bains, 1997: 66). This can also be said about the actors operating in the informal ICT market, but only to a certain extent. While it may be convenient to categorise these actors as part of a new business model, such labelling undermines the anthropological and sociological emphasis that we believe should prevail in an analysis of the informal sector. We feel that the idea that ICTs can somehow create a different context for these informal actors is by no means sustainable as a general principle. In fact, despite the singularity of some elements pointed to in this study, our analysis does not look only at specificities. Indeed, any assumption that suggests that new media technologies can potentially provide comparable levels of economic growth and wealth distribution across both formal and informal economies, and sequentially across the divide between the developed and underdeveloped world, is extremely problematic.

Consequently, if the exploitation of ICTs by informal actors seems to exhibit similar patterns, in terms of growth and ownership concentration, to other more traditional sectors, there are an important number of other factors that are very different. This analysis of digital diffusion should not be regarded as an exact mirror of the exploitation of products, services and labour in the analogue world, but it is equally important to point to the continuities between analogue and digital exploitation beyond the hyperbole of the information revolution. This suggests that such specificities are not the result of technological determinism, but emerge from the interaction between human articulation and technological innovation.

Another problem arises when we revisit our original hypothesis. We argued that the collusion between informal economies and ICTs, far from asserting the neoliberal

paradigm of development through creativity, actually perpetuates and aggravates exclusion, while inhibiting the redistribution of wealth. This now seems equally problematic. This is not because it is negated by the findings of our research, but because these observations also suggest a more complex paradigm in terms of the wholesale/retail relationship between ownership, participation and know-how. If the findings indicate an exploitation model of ICTs that tends towards ownership consolidation and subsequent concentration, and follows the same paradigm of other informal sectors, we argue that this cannot be seen to be the overriding factor. As in other sectors, stock reposition within economies, characterised by chronic inflation, is key to explaining the need for intensive capital investment and the subsequent tendency to concentrate ownership in the medium and long term (Rincón and Portillo, 1992). However, this is by no means the only determinant. Indeed, the exploitation of ICTs in the informal sector seems to follow a series of characteristics and defining features that are clearly not present in the exploitation of other products and services.

As a result, it is not possible to state categorically that the introduction and subsequent exploitation of ICTs has wholly mirrored the traditional patterns of the informal sector in Venezuela. For example, if entry barriers are high, then there are no sales incentives and the cycles of ownership consolidation tend to be shorter. There are also specific entry conditions in terms of technical know-how and distribution that are notably different to other informal services. These include the existence of multiple types of business models and the reorganisation of the systems of distribution that in the past were mainly founded upon an individual's or group's access and relation to wholesale providers. Conversely, if our findings indicate that the exploitation of new technologies in the informal sector partly reflects similar exploitation of products or services in traditional informal sectors, they also suggest different models of exploitation. In stark contrast to the almost mythical notion of the small entrepreneur setting up their own businesses on a massive scale so as to exploit their own creativity, the cyber-informal sector in Venezuela represents an army of unemployed workers at the behest of larger actors. However, a further distinction can be made between the low-skilled work of the traditional informal sector and certain new media services and products that demand specific technical know-how that can only be developed under specific socio-educative conditions. Potentially, this relates directly to the integration of members of the middle or professional classes and their educational background into this informal sector. This is without doubt a significant aspect of our research that demands further attention. Certainly, in light of these multiple circumstances, it is difficult to try to categorise or typify these activities as simply sub-employed labour or as family-owned micro-enterprises.

With these difficulties in mind, we suggest that the analysis of the exploitation of digital and telecommunications technologies by the informal sector requires an approach that is cautious and critical towards predominant assumptions. It needs to reassess the assumption that ICTs and informality are creative forces able to liberate dead capital. We argue that new media technologies do not play a natural egalitarian role that somehow lowers entry barriers. Nevertheless, this analysis does not have to reject completely the distinctive and singular characteristics that the exploitation of ICTs in the informal sector demonstrates. So while we acknowledge that the current exploitation of ICTs by

informal actors reproduces existing practices by shortening the periods of ownership consolidation, limiting the flexibility of negotiation and restricting the role of independent actors, it is also the case that these practises present different options in terms of wholesale/retail relation, participation and the spatial reconfiguration of networks of informal actors. Furthermore, these actors emerge not as a result of the excessive value/cost of legality determined by bureaucratic regulation (company registration, legal requirements, etc.), but by the opportunities, and the risk or cost, associated with operating in the grey market, (salary, piracy, sales-point mobility, customer traffic, etc.)¹ and the ability to operate services across different geographic areas.

There are still many areas to explore with respect to this subject. Among these are the important issues related to the consumption of ICTs in the informal market. There is little literature in this respect and even less empirical data to support analysis, but this is a phenomenon that needs to be explored across nations so as to understand the extent to which practices are reproduced, or how new practices such as the exploitation of ICTs might emerge in the informal sector. Ideally, such an approach would also need to be interdisciplinary, incorporating perspectives from anthropology, sociology, cultural and media studies and business studies. In order to re-conceptualise the relationship between creativity and technology in an informal environment we need to utilise interdisciplinary tools.

This is a particularly important task in the context of the design and implementation of policies in Latin America, since multilateral institutions, such as UNESCO, have been assessing the diffusion of ICTs as a way of supporting micro-enterprises and economic development (Bindé, 2005). However, this perspective is more often than not determined by the assumption that both technology and deregulation can act as transformational agents across the region. Arguably, most of these institutions base their policies on a logic framed by the postulates and assumptions that we have endeavoured to assess critically in this article. Organisations such as the Inter-American Development Bank place great emphasis on both technological innovation and deregulation when dealing with the informal sector (Freije, 2005). Nevertheless, several authors have begun to question the validity of this paradigm (Mochache, 1997; Quijano, 1998; Maloney, 2004) and some have even demanded a reassessment of concepts such as dead capital, creativity and social capital (Fine, 1999).

What we hope to achieve with this study is to position this debate firmly on a critical path, one that does not assume that there are shortcuts to achieving prosperity or technological miracles that can conjure up better standards of life. This is, needless to say, an important debate, and the issues involved can no longer be considered to be marginal aspects in the wider debate on poverty reduction, economic growth and wealth redistribution. The informal economy is by far the biggest employer in many developing countries, especially in Latin America. In the late 1990s, Ghersi (1997:

1 The term 'grey market' refers here to the flow of new goods through distribution channels other than those set by the manufacturer or producer. However, this does not mean that they are necessarily illegal (Sardo, 1987). Frequently, this form of parallel activity occurs when the price of an item is significantly higher in one country than another. This situation is also known as arbitrage.

102) estimated that it generated the equivalent of 35 per cent of the GDP of the region. In Venezuela, it is currently estimated that over 40 per cent of those employed work in the informal economy (Rosales, 2003; INE, 2007). This is informality on a massive scale. Add to this the complex diffusion of digital information technology and it is possible to see why continued analysis of role of informality in the so-called new economy is important, to revise theoretical implications and the traditional assumptions that surround public policy design and implementation.

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