

**Association for Information Systems
AIS Electronic Library (AISeL)**

CONF-IRM 2012 Proceedings

International Conference on Information Resources
Management (CONF-IRM)

5-2012

A profile of ICT Entrepreneurs in Brazil

Renata Lèbre La Rovere

Federal University of Rio de Janeiro, renata@ie.ufrj.br

Leonardo de Jesus Melo

Federal University of Rio de Janeiro, leojmelo@gmail.com

Follow this and additional works at: <http://aisel.aisnet.org/confirm2012>

Recommended Citation

Rovere, Renata Lèbre La and Melo, Leonardo de Jesus, "A profile of ICT Entrepreneurs in Brazil" (2012). *CONF-IRM 2012 Proceedings*. 43.
<http://aisel.aisnet.org/confirm2012/43>

This material is brought to you by the International Conference on Information Resources Management (CONF-IRM) at AIS Electronic Library (AISeL). It has been accepted for inclusion in CONF-IRM 2012 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

A profile of ICT Entrepreneurs in Brazil

Renata Lèbre La Rovere
Federal University of Rio de Janeiro and INCT PPED/CNPq
renata@ie.ufrj.br

Leonardo de Jesus Melo
Federal University of Rio de Janeiro and INCT PPED/CNPq
leojmelo@gmail.com

Abstract

This paper presents the first results on Brazil of an international survey on how entrepreneurs from BRIC countries perceive their environment. The first section describes briefly the present context of Brazilian ICT entrepreneurs. The second question describes the methodology of the research and the third section describes the main results. The fourth section presents a discussion of results, and the fifth section the conclusions.

Keywords

Entrepreneurship, ICT sector

1. Introduction

As observed by Casson (2008), entrepreneurs have an important role in the market economy, as personal qualities of the entrepreneurs will affect success of firms. However, entrepreneurship does not depend only on individual capabilities. As the economy is also influenced by institutions, we have to consider the importance of the milieu where firms develop business (Julien, 2007).

In a dynamic sector such as the ICT industry, it is interesting to assess how the milieu conditions entrepreneurial activity. As ICT entrepreneurs are in an environment of high competition and fast technological change, institutions such as Government industrial policies, education and attitudes toward entrepreneurship define the opportunities and challenges of ICT firms.

Entrepreneurship activity in Brazil is growing, as the economy has been growing at steady rates in the last five years. It is important to note that the financial crisis that hit developed countries last year so far had little effect on the Brazilian economy, because its growth at present is mostly based in the expansion of the internal market. In the last years social policies allowed for a huge expansion of the middle class: in 2003, Brazil had 13.3 million people at the higher class, 65.8 at the middle class and 96.2 at the lower class. In 2009, the lower class had 73.2 million, the middle class 94.9 million (50.5% of total population) and the higher class 19.9 million. This expansion created new opportunities for entrepreneurs as it paved the way for the growth of the internal market. Revenue of Brazilian households grew at a 5.3% yearly rate in this same period (CPS/FGV, 2010).

Opportunities for Brazilian entrepreneurs in the ICT sector are also growing, as the middle class expansion is leading to a growth in digital inclusion. The number of households with broadband internet access jumped from 200.000 in the beginning of the last decade to 17.4 million in 2011 (30.3% of the total). The share of the ICT sector in Brazilian GDP was 7% in 2009 and the total employment in the sector grew 21% between 2003 and 2009 (BRASCOM, 2010). Today the ICT sector employs around 1.7 million people.

This paper presents the findings of a study conducted among 108 entrepreneurs from the ICT sector in Brazil. The aim of the study was to make a profile of entrepreneurs, investigating their perception on how institutions are important to support enterprises and organize the competitive process in this sector. The question that will be discussed in the paper is whether individual traits are considered by entrepreneurs more important than milieu elements.

2.Methodology

The issue of how entrepreneurship is affected by the milieu and how entrepreneurs envision this relation is at present being studied by a team of specialists that formed in 2010 the International Consortium for Entrepreneurship Research¹. The first effort made by this group was to discuss the main factors for success of entrepreneurial activity using as references the work of Manimala (2008a, 2008b). After discussion, the group agreed that these main factors are:

1. Individual personality traits
2. Socio-cultural context
3. Government programs and policies
4. Access to finance
5. Access to information, opportunities for knowledge and skill building
6. Exposure to global markets

All participants of the research consortium then proceeded to investigate these factors in their respective countries, following the same research procedures. These procedures were to apply a pilot questionnaire to a small number of selected enterprises and, based on the results of the pilot questionnaire, develop a second questionnaire that was applied to a larger group of enterprises. This paper comments on the results found about Brazil.

In Brazil we applied a pilot in-depth questionnaire with questions related to the six factors mentioned above to a group of 10 ICT enterprises. Of those, five enterprises were chosen between the 200 SMEs that had the largest growth rates in Brazil between 2007 and 2009 and five were start-ups located in Rio de Janeiro.

We then proceeded to apply a similar questionnaire to 120 ICT enterprises that were contacted in large ICT conferences, by email and through social networks. Entrepreneurs had to classify elements linked to each factor as very important, average importance, no importance or no opinion. In addition to the questions related to the six factors mentioned above, we also asked entrepreneurs to mention the three most important factors of success and the three most important factors of failure. Therefore, the main goal of the research was to make a portrait of entrepreneurs' perceptions on factors that lead to entrepreneurial success. If a factor is deemed not important by entrepreneurs, but it is present in the entrepreneurial milieu, this means that there is a cognitive distance² between entrepreneurs and institutions that increases costs of policy implementation.

¹ This team was organized by professor Fabio Corno, of University Milano Bicocca, and in addition to the authors includes professors Mathew Manimala (IIMB/India), Elena Perezeneva (MIRBIS/Russia) and Daniel Lund (Fudan University, China)

² For a discussion of the concept of cognitive distance and how it affects relations between firms and institutions, see Nooteboom (2009)

Out of the 120 questionnaires applied we collected 98 valid questionnaires. This paper will present the main results of the research, comparing the answers from this group of 98 enterprises with the original group.

3. Results

3.1 Individual traits

Questions proposed on individual traits are listed on table 1.

1.	Your ability to quickly recognize start-up opportunities
2.	Your ability to take risk
3.	Your ability to organize the resources required for start-up
	Other variable (please specify) ...

Table 1: Questions on individual traits

The answers to the questions related to individual traits revealed a strong perception among Brazilian entrepreneurs that individual and personal characteristics are critical to success. However, there were some important differences among the answers. 60% of interviewees considered that abilities to recognize new business opportunities and to take risks were very important, but less than 50% mentioned that abilities to organize the necessary resources to start a business were very important. As the first group observed that most entrepreneurs had difficulties to select employees, get financial resources and establish networks, there seems to be a consensus that organizing resources is a capability that needs to be improved.

3.2 Socio-cultural context

Questions proposed on socio-cultural context are listed on table 2.

4.	Presence of family-based entrepreneurship in your society
5.	Culture of promoting venturing and risk-taking in the community
6.	Culture of encouraging creativity and innovation
7.	Entrepreneurship considered as a desirable career choice in your society
8.	Opportunities for new venture creation
9.	Entrepreneurial opportunities that are gender-related
10.	Entrepreneurial opportunities for people in your age category
	Other variable (please specify) ...

Table 2: Questions on socio-cultural context

The interviews with the first group revealed a conservative attitude of the families towards entrepreneurship; most families of the entrepreneurs of this group did not support or did not understand the involvement of entrepreneurs with their business. This attitude is linked to a high value attributed to financial stability. Brazilians faced high inflation for a very long period, therefore they prefer sure earnings that come with stable jobs. The fact that interest rates are historically high for structural reasons also explains the aversion to risk in Brazilian society.

However, the larger sample considered that presence of entrepreneurial families was important as a socio-cultural element, although less important than individual traits (35% considered this element very important and 40% of average importance). Other socio-cultural

elements considered important, with similar ratios, were culture to promote new business, to support innovation, entrepreneurship viewed as a desirable career, opportunities for young people and gender-related opportunities. Opportunities for the creation of new businesses were considered most important by interviewees: 46% considered this element very important and other 44% of average importance.

It is interesting to note that gender-related opportunities surpassed opportunities for young people in answers rated “very important”. This indicates that women have been conquering more space in the Brazilian society.

Overall, answers seem to be very optimistic about the socio-cultural context, reflecting the good economic period that the country has been going through and the related perception that are several opportunities for business creation in the ICT sector.

3.3 Government Policies and Programs

Questions proposed on Government policies and programs are listed on table 3.

11.	Special government schemes & programs for start-ups
12.	Favorableness of overall government policies
13.	Favorableness of taxation system
14.	Ease of obtaining permits and licenses (VAT code, ... etc.)
15.	Favorableness of physical, transportation and ICT Infrastructures

Table 3: Questions on Government Policies

Among the first group, all considered that Government policies were not important. In addition, some entrepreneurs consider that Government hinders more than helps. Three of the five consolidated companies specifically mentioned taxation as an obstacle to business growth. Among the start-ups, three recognized the benefits associated with Government policies to help high-technology research or support to start-ups, one stated that Government policies did not help but also were not obstacles and one also mentioned taxation as an obstacle.

The larger sample seemed to confirm the unfavorable view companies have of public policies. Most interviewees considered these policies of average importance, but the ratio of interviewees that considered that these elements were not important was higher than the ratio for the questions related to individual traits and socio-cultural context.

Differently from the findings of the first group, policies for start-ups were not considered very important for success: 28% considered these policies not important and 50% considered they had average importance. This difference may be explained by the fact that the first group had relatively more start-ups than the larger sample.

Regarding the opinion about favorable tax policies, while the first group emphasized the importance of strong taxation as an obstacle to business growth, 41% of the interviewees from the larger sample did not consider favorable tax policies important, and 40% of interviewees did not consider ease in obtaining licenses important.

In addition, interviewees were divided about whether subsidies were important: 33% considered this element not important, 53% considered it had average importance and 12% considered important.

Therefore what seems to prevail in the conception of interviewees is that state policies may help but are not very important. ICT and physical infrastructure were considered of average importance for 61% of interviewees

Brazilian entrepreneurs are indeed wary of Government. They were penalized by high taxes for a long time in the past. In recent years the Government has been trying to solve this problem by creating tax rebates for small companies, but these rebates are conceded according to turnover, so companies that grow end up losing them. Also, regulations to open new businesses are still complex despite all efforts of the federal Government to simplify procedures, since they include licenses at the federal, state and local levels.

Although the Government is also making a significant effort to support research in high-technology, the policies to support high-tech companies are also restrictive because they are linked to traditional concepts of industry (telecommunications, informatics, new materials etc.). As the ICT companies produce a mix of products of these sectors, sometimes they fail to qualify to the rigid calls for support that the Government produces according to Brazilian law.

Finally, infrastructure is a general problem of Brazil, and ICT companies also suffer with difficulties related to the fact that broadband penetration is restricted to metropolitan areas. This fact limits their possibilities of growth.

3.4 Access to Finance

Questions concerning access to finance are listed on table 4.

16.	Availability of Government subsidies
17.	Availability of family/friends funds
18.	Availability of Venture Capital Funds
19.	Availability of funds from private individuals/Angel funds
20.	Availability of bank loans
	Other variable (please specify) ...

Table 4: Questions on Access to Finance

The fact that in Brazil interest rates are very high leads entrepreneurs to seek alternative ways of finance. Among the first group, most had used money from relatives and friends to start their businesses and just one company had access to private equity. Today the first group does not view financial institutions as important and tries to keep growing with their own resources or by partnerships with customers and suppliers.

The answers of the larger sample did not confirm the importance of alternative ways of finance. Resources from family were considered very important by only 11% of interviewees. However, they seem to confirm that entrepreneurs mostly rely on their own resources, because all forms of finance listed were mostly considered not important or of average importance.

3.5 Access to information, opportunities for knowledge and skill building

Questions proposed on information and knowledge are listed on table 5.

21.	Encouragement of entrepreneurship by the education system
22.	Availability of formal training for entrepreneurship
23.	Start-up counseling & assistance at college/universities
24.	Support from Industry associations for networking, information etc.
25.	Incubators and/or Technology parks that offer one stop service for businesses
26.	Assistance from universities/R&D institutions in transfer of R&D
27.	Special programs to promote products and services of start-ups
28.	Opportunities for public-private collaboration to facilitate market entry
	Other variable (please specify) ...

Table 5: Questions proposed on information and knowledge

Education, hard work and honesty were the values most cited as essential values by entrepreneurs of the first group. Knowledge related to experience on the job is considered essential. All established companies have in-job training courses. Concerning the knowledge necessary for planning of activities, most companies in the first group cited technical knowledge, knowledge of competitors and of customers as the essential elements of a good strategy. All established enterprises from the first group also consider that it is very important to provide their experience to younger entrepreneurs. They do this by presenting seminars, posting success cases in their homepages, teaching at Universities and taking part of social programs to stimulate entrepreneurship conducted by NGOs.

This positive attitude to education was also revealed by answers of the larger sample but with some differences concerning the type of education. Access to incubators and technological parks, for instance, was considered very important by 23% of interviewees and of average importance by 49%, while formal training in entrepreneurship was considered very important by only 13% of interviewees and of average importance by 49%. Support from industry associations for networking was the second more important element mentioned, considered very important by 22% of interviewees and of average importance by 58%. This result is on line with the observation from the first group that entrepreneurs do have difficulties in networking.

3. 6 Internationalization of firms

Questions proposed on internationalization of firms are listed on table 6.

29.	Attitude towards internationalization
30.	Information and skills required for internationalization
31.	Government agencies facilitating new firms entry into domestic & international markets
32.	Access to financial resources to tackle internationalization
33.	Foreign language abilities in your company

Table 6: Questions on internationalization

Concerning this issue, results obtained in the larger sample were substantially different from the first group. The latter considered that going global is important to acquire experience and consolidate their businesses. All established companies that had national markets answered that they were “still national”, indicating their desire to go global in the future. One of the

companies located in the incubator already has Latin American clients and another expressed a desire to go global. Global insertion is viewed by companies of the first group as a way to face new challenges, learn and bring new quality standards to the company and to the market.

In the larger sample, 50% of companies said that internationalization was not important. When we add this to the 30% of interviewees that declared that internationalization was of average importance, we have a clear indication that Brazilian entrepreneurs do not focus on international markets at this moment. This explains why 48% of interviewees considered information and abilities required for internationalization, access to financial resources linked to internationalization and support policies to enter new markets (local and global) not important as well.

In the group of variables that measured attitudes towards internationalization, the only one considered important was access to foreign languages, although it was mostly considered of average importance (40% of interviewees). However, this seems more related to the present economic and social context of the country, that expects to attract more foreign investments due to the scenario of crisis in developed countries.

3.7 Factors of success and failure

The key success factors mentioned were individual: the first one was ability to recognize opportunities, mentioned by 26% of interviewees. The second was ability to run risks, mentioned by 9% of interviewees, and the third was ability to organize resources, mentioned by 7% of interviewees. The key failure factors mentioned were favorable tax policies (11%), and public policies in general (9%), confirming the perception that entrepreneurs consider public policies a hindrance and fail to acknowledge efforts made by Government in this area.

Finally, one factor linked to milieu had mixed results. Educational system favorable to entrepreneurship was cited by 8% of interviewees as the second more important factor to success, and by 9% of interviewees as the third more important factor for failure. As the importance of education to ICT entrepreneurs is evident, more research on how they perceive benefits of formal education is needed.

4. Discussion

If we follow the division proposed by Julien (2007) op.cit., we may state that the interviews of the first group showed the importance of both individual traits (entrepreneurs) and of the milieu in setting up successful organizations, either consolidated or inside incubators. The answers of the larger sample, however, indicated that entrepreneurs consider more important for success individual traits rather than institutional factors such as Government policies, education and socio-cultural context.

Individual traits of the entrepreneurs are important to start the company because, as showed by the interviews of the first group, some entrepreneurs faced obstacles such as uncertainties of the economic environment and opposition from their families to set up their enterprises. However, the sample was well distributed among new and established businesses, so the explanation of the valorization of individual traits is not linked to the characteristics of the sample.

There is some possible explanations for this result. The first is that, if we consider that entrepreneurs are acting in a complex environment subject to transaction costs and information asymmetry, it is evident that institutions are important agents. But it is also true that in this environment, decision-making will not be taken according to parameters of optimization. Rather, entrepreneurs will act motivated by satisficing objectives (Simon, 1982, Sarasvathy and Dew, 2005) Therefore, the valorization of individual traits may be explained by the fact that the pursuit of satisficing objectives leads to decision-making routines that change slowly over time. As in Brazil institutions began to become more solid only in the last decade, it is possible that entrepreneurs are still skeptical about the benefits provided by Government policies and the educational system.

Other possible explanation for this result is that the sample is mostly formed by SMEs. SMEs have more difficulties to benefit from Government policies due to their limited resources (La Rovere and Shehata, 2006). The ideology of the self-made man among small entrepreneurs is still prevalent, regardless all the efforts Brazilian Government has done recently to improve their competitive conditions.

A third possible explanation is that as in a context of uncertainty entrepreneurs set decision-making principles that start with focusing on their own capabilities (Saraswathy and Dew, 2005), they naturally tend to consider more important their own individual traits than institutional factors.

5. Conclusion

In this paper we presented the results of a research on how entrepreneurs view the main elements that condition entrepreneurial activity. We separated these elements into individual traits, socio-cultural context, Government policies, access to finance, access to knowledge and internationalization.

The profile of Brazilian ICT entrepreneurs that emerges from this research is the profile of conservative entrepreneurs that rely on their own capabilities and resources to organize their business and are much more interested in the internal market. Milieu in this case sets up the parameters for decisions: the use of own resources to start, the importance attributed to knowledge and the criticism of Government are all important in decision making about investments and search of new markets.

References:

- BRASSCOM (2009) *Alavancando TIC para Crescimento Econômico*. Rio de Janeiro, Fundação Getúlio Vargas
- Casson, M. (2008) *The Entrepreneur. An Economic Theory*. Cheltenham, UK, Edward Elgar
- CPS/FGV (2010) *A Nova Classe Média: o Lado Brilhante dos Pobres*. Rio de Janeiro, Fundação Getúlio Vargas. Available at www.fgv.br/cps
- DELLITE (2010) *As PMEs que mais crescem no Brasil. Um estudo sobre as empresas que cultivam as bases de sua expansão*. São Paulo, Delloite/EXAME PME
- Julien, P.A. (2007) *A Theory of Local Entrepreneurship in the Knowledge Economy*. Cheltenham, UK, Edward Elgar
- La Rovere, R.L. and L. Shehata. (2006). “Políticas de apoio a micro e pequenas empresas e desenvolvimento local: alguns pontos de reflexão”. *Redes* 11 (3), pp. 9-24.
- Manimala, M.(2008a) “Entrepreneurship Education in India: an assessment of SME training needs against current practices”. *International Journal Entrepreneurship and Innovation Management* 6, pp.624-647.

- Manimala, M.(2008b) “Evolution of the Bangalore Cluster: a Stage Theory Based on Crystal Growth Model” in Carayannis, E. G. and P. Formica, P. (eds) *Knowledge Matters: technology, innovation and entrepreneurship in innovation networks and knowledge clusters*, Basingstoke (UK)/New York: Palgrave Macmillan, pp. 4-128.
- Nooteboom, B. (2009) *A Cognitive Theory of the Firm. Learning, Governance and Dynamic Capabilities*. Cheltenham, UK: Edward Elgar
- Sarasvathy, S.D and N. Dew (2005). New market creation through transformation. *Journal of Evolutionary Economics* 15, 533-565

Acknowledgements

The authors wish to thank Pablo Diego Pereira, Vanessa Huback and Bruna Azevedo, undergraduate students of the Institute of Economics of the Federal University of Rio de Janeiro, for their valuable help in collecting and organizing the data.