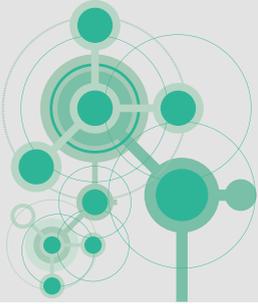


DOSSIÊ





Main innovation initiatives in communication in Brazil and their relationship with the ecosystem

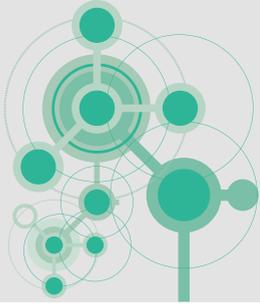
Principais iniciativas de inovação em comunicação no Brasil e sua relação com o ecossistema

Principales iniciativas de innovación en comunicación en Brasil y su relación con el ecosistema



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Abstract

This research aims to identify and characterise the main innovation movements in communication in Brazil, as well as how they support themselves and interact with the ecosystem. This study conducted a qualitative and exploratory research, gathering primary and secondary data by structured interview, documental research and participant observation. The results from this study demonstrate that the grade of innovation is reduced in all universes, innovation is incremental and that there is a general lack of integration between the ecosystem entities.

KEYWORDS: INNOVATION • COMMUNICATION • JOURNALISM • ECOSYSTEM • BRAZIL.

Resumo

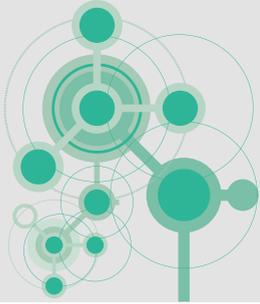
O objetivo deste estudo foi identificar e caracterizar os principais movimentos de inovação em comunicação no Brasil, assim como a forma como eles se sustentam e interagem com o ecossistema. Para isso, o estudo realizou uma pesquisa de caráter qualitativo e exploratório que compilou dados primários e secundários por meio de entrevista estruturada, pesquisa documental e observação participante. Os resultados mostram que o grau de inovação é reduzido em todos os universos; inovação é incremental e há uma falta geral de integração entre as entidades do ecossistema. Este estudo também identificou que as organizações estudadas geralmente realizam ações sazonais únicas e focadas em suas próprias necessidades, o que não contribui de maneira eficaz para o desenvolvimento do ecossistema de inovação para a comunicação no Brasil.

PALAVRAS-CHAVE: INOVAÇÃO • COMUNICAÇÃO • JORNALISMO • ECOSSISTEMA • BRASIL.

Resumen

El objetivo de este estudio fue identificar y caracterizar los principales movimientos de innovación en comunicación en Brasil, así como la forma en que sostienen e interactúan con el ecosistema. Para ello, el estudio realizó una investigación cualitativa y exploratoria que compiló datos primarios y secundarios a través de entrevistas estructuradas, investigación documental y observación participante. Los resultados muestran que el grado de innovación se reduce en todos los universos; la innovación es incremental y existe una falta general de integración entre las entidades del ecosistema. Este estudio también identificó que las organizaciones estudiadas generalmente llevan a cabo acciones estacionales únicas enfocadas en sus propias necesidades, que no contribuyen de manera efectiva al desarrollo del ecosistema de innovación para la comunicación en Brasil.

PALABRAS CLAVE: INNOVACIÓN • COMUNICACIÓN • PERIODISMO • ECOSISTEMA • BRASIL.



INTRODUCTION

In the current global scope, the established media companies face economic and financial problems due to the weakening of the business model based on the defrayal of journalism by advertising. On top of these economic problems, we observe the reduction of credibility in journalism, notably provoked mainly by the new media fake news (Carlson; Usher, 2016).

The investment in innovation is imperative to overcome such obstacles, indicated as one of the main ways of seeking solutions to situations of crisis, as experienced by older established mass media corporations. As a result, in the last three years, the interest and research focused on the intersections between innovation and communication have notably been increasing outside Brazil. Among the subjects of most interest to researchers, we highlight the innovative initiatives from technology, known as startup companies, which seek to fill needs that have not been met by the big media (Anderson; Bell; Shirky, 2012).

However, the startups should not be seen separately, as a panacea in the face of the increasing need for innovation. They are part of networks characterised as basic forms of society organization, which strengthen human relations using elements such as collaboration and sharing. In those networks, many members cooperate for the development of new companies which contribute to their environment.

Therefore, this study aimed to identify and characterize the main communication innovation movements in Brazil and how they sustain and interact with the ecosystem.

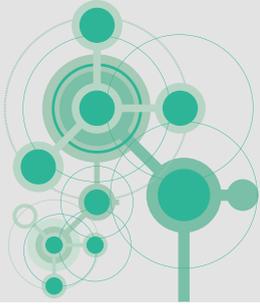
INNOVATION, COMMUNICATION AND NEWS TECHNOLOGIES

Innovation is a new product, process or service that takes place in the market: “the real challenge of innovation is not invention—having good ideas—but the process of making them work technically and commercially” (Tidd; Bessant, 2015, p.18). To do so, a technology will be needed, which only makes sense as it adds value to the environment where it has been inserted, for “the economic value of a technology remains latent until it is in some way marketed” (Chesbrough, 2012, p.79).

Mass communication is an economic activity part of a broader grouping, called the media industry, which is classified on the basis of the product—printing, transmission, film, recorded music etc.—, regulation, technology, and sequence in the production and distribution chain. The media economy is concerned with how media industries allocate resources to create information and entertainment content to meet the needs of target audiences, advertisers, and other social institutions (Picard, 2014).

When one seeks to unite the concepts of innovation and communication, the literature shows divergences. Dogruel (2014) lists at least six separate lines of research for media innovation. Many of them try to dissociate the economic aspects of innovation. Storsul and Krumsvik (2013), however, warn that the lack of grounding of such research in the theory of innovation impairs a broader understanding of the phenomena. As a result, innovation management has become one of the most critical areas of research in media management and economics.

In Brazil, the Triple Helix Model implemented is based on the integration between Government, Companies and Universities. If the State plays the roles of regulator and supplier of resources, the universities support the other entities by producing new knowledge and forming a labour force, while companies contribute with their own capital and investment in the production activity. Innovation would be one of the products from those relations, resulting from a complex and dynamic process of experiences and information exchange (Etzkowitz; Leydesdorff, 2000).



However, this strategy proved ineffective over time. Brazil ranked 69th in the National Innovation Index for a total of 130 economies around the world in 2017 (Dutta; Lanvin; Wunsch-Vicent, 2017). In the communication area, disruptive technologies, such as algorithms, artificial intelligence and Natural Language Generation (NLG), widely used by digital social networks and search engines, have altered the world's media economy (Küng, 2015; Newman et al., 2017). Developed countries where the effects of such changes are advanced, such as Canada, are already questioning what will be the future of the nations, considering the weakening of democracy, a direct consequence from the reduced number of local or national media companies (Public Police Forum, 2017).

Public interest information, which requires good journalism, is necessary not only for democracy but also for the life in society. The controversy lies, mostly, in the business model of the already-established media, which is the only one producing public interest content. Media companies need to fund production costs. However, while new media do not have costs to distribute the content created by the press, they dispute the audience with the already-established media. As they have more control over those consuming information, the new media companies snatch most of the advertisement sector. Therefore, they contribute to reducing, even more, the marginal cost of information, tending to zero (Rifkin, 2016).

Although the marginal cost is close to zero, it is not a result exclusively from the way the technology companies operate. Above all, it is a result of the Internet particularities; a media that disrupted the whole structure on which the traditional media were established for being more open, free and decentralised.

Therefore, the existence of a way of fully replacing the current business model, administrated under a different technological, social and economic logic, appears to be unlikely. On the other hand, it is imperative to find alternatives considering the existent wear.

METHODOLOGY

The research can be classified as qualitative, exploratory, descriptive and explanatory. Given the low availability of information and the interdisciplinarity of the subject, it was necessary to use the participant observation technique and to collect data through documentary research. Such choice was grounded on the need to evaluate the whole environment of innovation in Brazil, and the purpose of the work was to provide a macro view of the national context around communication.

In this study, the corpus was formed from a comparative study involving several actors of the communication innovation ecosystem. All researched organisations are listed below, as well as the value proposals, areas of operation and other relevant aspects.

Table 1: Startups that participated in the research

Name/ website	Value proposition	Founders/Academic Background/ Current area of practice	How the startup was created
Celebryts	Enables contact between Youtubers and advertisers for digital marketing campaigns	Bruno Pires – Advertising Agent – Marketing; Ariel Alexandre – Design – CEO; Rafael Stavarengo – Software Engineer – Technology.	The founders of the company realised that there was a demand in the advertising market to make the search for influencers easier within a specific niche.

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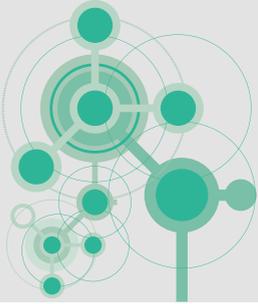


Table 1. Continuation

Name/ website	Value proposition	Founders/Academic Background/ Current area of practice	How the startup was created
Klipbox	Clipping monitoring tool for online news, which aids press agents and marketing departments in monitoring the public image of their companies, products, and competitors.	Dante Sarmiento – Associate Degree in Foreign Trade, Specialization in Information and Innovation Management – Administration and Financing; Rayanny Nunes – Associate Degree in Foreign Trade, Tourismologist, Specialization in Project Management and Innovation Management – Customer Service.	The sister of one of the partners (Rayanny) worked as press agent and was one of those responsible for the clipping service. At the same time, Dante and Rayanny were partners in another enterprise and had an ongoing project related to an internet search engine. They took advantage of their findings from the search engine project and adapted them to the Klipbox.
NuMooh	Allows any company to hire Out-of-Home media in an easy, fast, and transparent manner.	Diego Van Dick – Foreign Relations – Sales/Marketing and Administration; Thiago Ramos – Computing Science and Business Management – Sales and Technology; Jonathan Chevalier – Mathematics and Physics – Technology.	The founders met for the first time during a programming boot camp in July 2016. Diego had the idea for the company while making an external media campaign on a road. He realised that the only way of finding such spaces was to pass in front of those panels and take note of the contact numbers, in order to get in touch with their commercial department. The team imagined that there was another way of doing it. After they performed researches on supplier companies, they noticed the same difficulties. Then, they decided to build a platform that solved this issue.
Predicta Group	Predicta currently works in technology development, with consulting and provision of services to advertising companies and agencies that need to administrate their investments in digital media.	Marcelo Marzola, Walter Silva and Philip Klein launched Predicta in 1998. In 2011, Predicta joined the portfolio of e.Bricks Digital, a fund that belongs to Grupo RBS group. Ricardo Hudson is the current CEO.	When the company was established in 1998, the proposal was to facilitate the routine of agencies that wanted to publish their advertising banners on large-scale websites. This was the first company in the Brazilian market to build a web server focused on the delivery of advertising in such a manner. As the business gained success, in 2011 the fund e.Bricks Digital became its partner. Now funded, Predicta once again aims to conquer the Brazilian market as the leading player of digital media with national funds.

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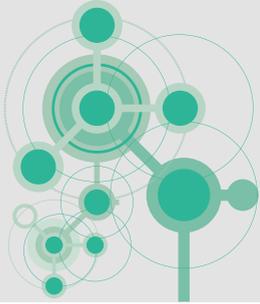


Table 1. Continuation

Name/ website	Value proposition	Founders/Academic Background/ Current area of practice	How the startup was created
Samba Tech	Platform to manage and distribute professionals in video production throughout the web, with an integration to monetize the content. In 2017, Samba Play was launched. It is a platform available for anyone that produces videos and wants to create a channel to sell content without the help of a developer. Aimed at smartphone users, Kast was created for the North American market. It is similar to a corporate Snapchat, in which the information is disclosed in a more dynamic and secure manner.	Gustavo Caetano – Founder and current CEO – Marketing; Felipe Fillizola – Marketing; Lídio Ramalho – Technology; Éverton Alves – Technology.	The company started as a mobile game developer for mobile operators in 2004 after Gustavo Caetano, the current CEO, took action. After some time, the business thrived, but the competition intensified and became a “red ocean”. Then, they noticed a tendency in the market for digital communication, mainly online videos, when Google acquired YouTube. After that, they developed a “corporate YouTube” based on a video platform. The idea was to solve the issue that broadcast television providers had. They produced content for television, knew that it had to be on the internet, but had no idea on how to make it happen. The platform developed by Samba Tech ensured streaming, scalability, reports and security, among other things. Now, the focus is that companies not only communicate better with each other, but also profit with their content.
Rock Content	Helping companies to create successful content marketing strategies. The objective is to help brands in creating relevant content at a high quality and big scale to engage customers and obtain their loyalty.	Diego Gomes – Marketing – Marketing; Edmar Ferreira – Technology – CEO; Vitor Peçanha – Marketing – Marketing.	The respondent did not explain the origins of the company.

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Table 1. Continuation

Name/ website	Value proposition	Founders/Academic Background/ Current area of practice	How the startup was created
Stilingue	Monitoring service tool for social media, press and influencers using artificial intelligence.	Rodrigo Helcer, Milton Stilpen Jr and Brayan Neves are the founders. They did not want to disclose their current roles in the company. They simply stated that Rodrigo Helcer is the CEO.	They did not want to provide further details. They only stated that the three founders had the idea of creating Stilingue during a meeting at the Campus Party event in Brazil.

Source: Prepared by the author.

Table 2: National and local media companies

	Name/website	Proposal of value/operating area
National	Grupo Abril (https://goo.gl/YNPZvf)	One of the largest and most influential groups of Communication and Distribution in Latin America. The company operates based on two business segments: Abril Mídia, which concentrates the Editora Abril businesses, Abril Gráfica and CasaCor; and the DGB, a Distribution and Logistics holding. The Abril Mídia has representatives from the South African media group Naspers in the Administrative Council.
	Grupo Estado (https://goo.gl/42Tlzo)	Owner of the newspaper <i>O Estado de S. Paulo</i> , one of the oldest still in activity in Brazil. It was founded in 1875 and is one of the biggest newspapers in circulation. The Grupo Estado also administrates one of the biggest and oldest news agencies in Brazil, the Agência Estado, besides the <i>Rádio Eldorado</i> and an advertising company focused on small and medium companies, the Planeta Serviços Digitais.
	Grupo Folha (https://goo.gl/eyDTqR)	It controls the newspaper with biggest circulation and influence (<i>Folha de S. Paulo</i>), the largest Brazilian company of content and Internet services (UOL), the newspaper's website with the biggest audience (Folha.com) and the largest business printing company in Brazil (Plural). Three other newspapers are also published: <i>Agora</i> , leader among the daily journals in the state of São Paulo, <i>Valor Econômico</i> , launched in 2000 in association with the Organizações Globo, and <i>Alô Negócios</i> , the biggest newspaper in the capital of the state of Paraná in number of advertisements.
	Grupo Globo (https://goo.gl/cEmDb6)	The group is the 14th biggest media company in the world and a set of entirely Brazilian owned media companies that reaches the whole national territory. The group is constituted by direct participations in several media, including Globo (leader in the Brazilian open TV), Globosat, Globo.com, Editora Globo, InfoGlobo, Sistema Globo de Rádio, Som Livre, Globo Filmes, and ZAP.
	Grupo Record (http://migre.me/wyaiL)	The company is the owner of: <i>Rede Record</i> , open TV channel and second biggest in audience in Brazil, also the oldest TV channel that still broadcasts; Record News, open-signal TV channel dedicated to news; <i>R7</i> , a website with online content; four local print newspapers; and three radio stations.

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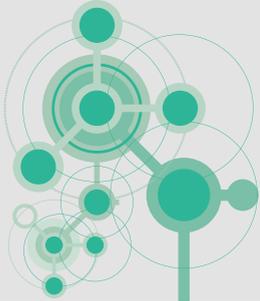


Table 2. Continuation

	Name/website	Proposal of value/operating area
Local companies	SBT (https://goo.gl/CMxwPm)	The Sistema Brasileiro de Televisão (SBT) is one of the largest communication groups in Brazil, although it does not invest in other media segments, unlike many organisations in this sector. The company is the owner of the open TV channel SBT, present in a good portion of the Brazilian territory.
	Emissoras Pioneiras (EPTV) (https://goo.gl/9guVbx)	This group is constituted of four companies affiliated to <i>Rede Globo</i> ; one newspaper, three radio broadcasters and one news website. Those companies are established in the countryside of the states of São Paulo and Minas Gerais. The area of coverage of the Group is of 11 million habitants in 371 cities.
	Grupo RIC (https://goo.gl/0mqBYm)	This is the biggest communication group in the South region of Brazil, and the second largest local communication group in Brazil. The company operates in the states of Paraná and Santa Catarina, reaching 16 million people. It is an affiliated company of TV Record in 11 TV broadcasters. It also controls 3 Web Portals, 4 radio stations, 2 print newspapers, 2 magazine publishers, and one multimedia platform.
	Grupo RBS (https://goo.gl/Qn8kYH)	It is one of the largest multimedia entrepreneurial groups in the country. In Brazil, it operates by the e.Bricks Digital, an investment fund of the digital sector companies. It is an affiliated company of TV Globo in the state of Rio Grande do Sul and owner of six radio broadcasters, two content web portals, and three print newspapers. All of them are leaders in the market they operate.

Source: Prepared by the author.

Table 3: Investment funds and organisations of development in innovation

Name/website	Proposal of value / operating area
Federação das Indústrias do Estado de São Paulo (FIESP) – Acelera Startup Contest	The contest entitled <i>Acelera Startup</i> is the biggest event of angel investment in Latin America. The objective is to encourage entrepreneurship. In the last editions of the event, over 11,500 submissions were received from all over the country. More than 300 mentors and more than 250 investors participated in those events. Up to 2016, the sum of all 9 editions of the event generated more than R\$ 5 million in investments. It is the only contest for the national scope, open to any entrepreneur, that created a exclusive category for communication startups. The first edition of the category of communication startups was held in 2016.
e.Bricks/e.Bricks Ventures	The e.Bricks is an investment company from the digital sector of the Grupo RBS. The e.Bricks mainly invests in Brazilian companies that are going through a high growth stage and are leaders in their areas of operation. It operates in three main sectors: segmented e-commerce, mobile and digital media, and technology. The e.Bricks Ventures in an independent offshore Venture Capital fund. It focuses on early-stage companies of Internet and mobile technologies. The first fund allocated US\$ 90 million in 16 Brazilian startups.
Redpoint eventures	It is a venture capital company focused on the Internet. It is the first and only Silicon Valley presence in Brazilian territory. The objective is to provide entrepreneurs with the capital, know-how and network to create and grow the next success stories in Latin American Internet. The Redpoint eventures also has a global network of sister funds in China, Russia, Germany and Japan. The proposal is to create a leading venture capital firm and to help developing the tech entrepreneurship ecosystem in Brazil.

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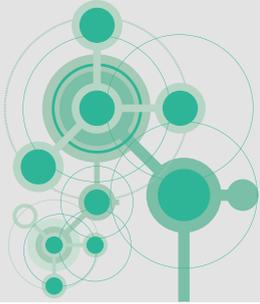


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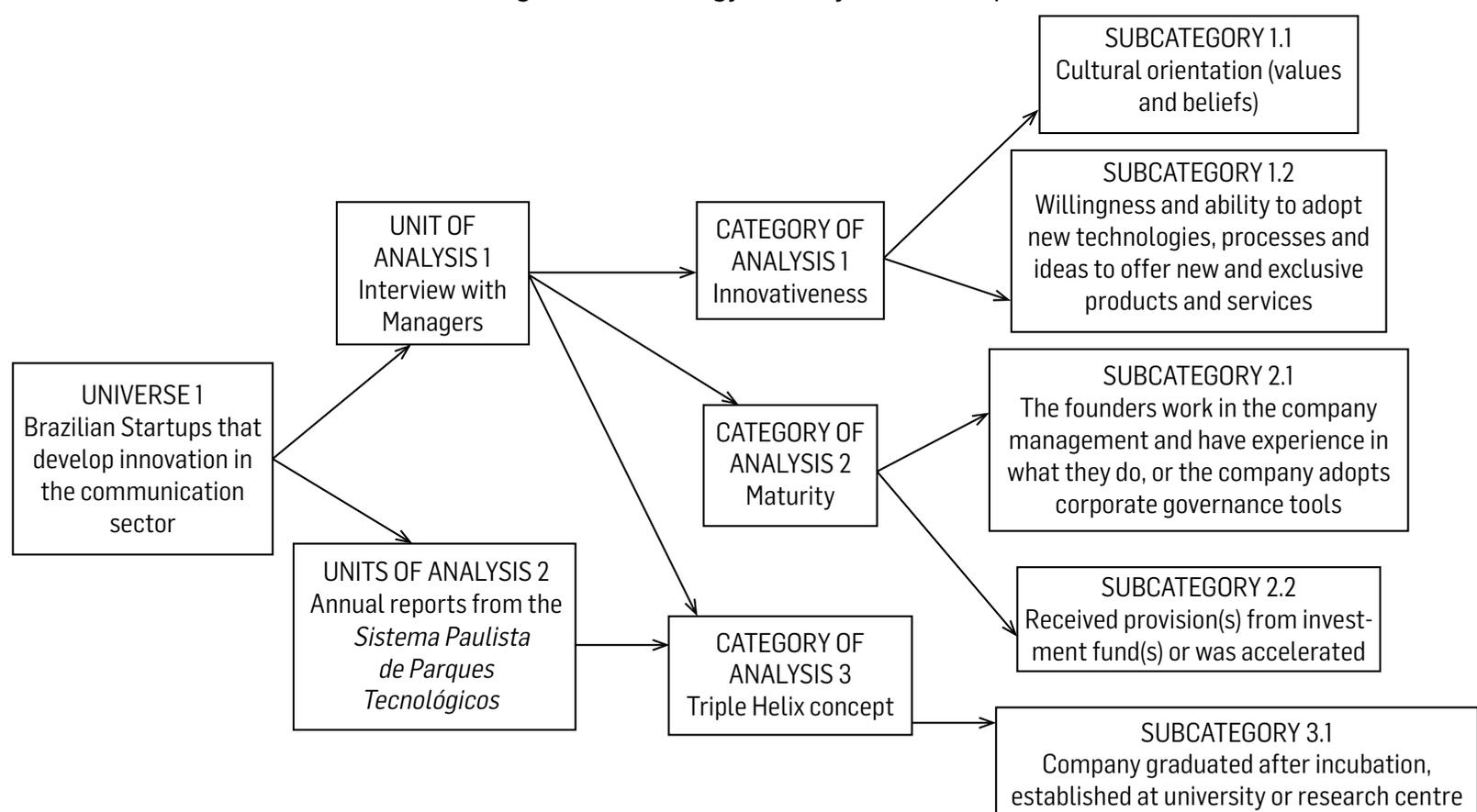
Name/website	Proposal of value / operating area
Monashess	Only few information is available about this company. They do not disclose the address or telephone number of their office. The company's motto is "We work with great entrepreneurs to build great companies". The company did not want to be interviewed but stated that it invests in Internet companies in the early stage. It made spontaneous contributions to startups that operate in communication.
Abril Participações	It is a venture capital company of the Grupo Abril that operates in the entire Brazilian market. It is specialised in in early-stage investments. In Brazil, the company invested in the startup Rock Content, also mentioned in this research.

Source: Prepared by the author.

As the research has a qualitative feature, the data gathering was conducted through structured interviews with the administrators of the chosen organisations and documentary research at their locations, mass media and reports by the *Sistema Paulista de Parques Tecnológicos* (SPTec, Technology Parks System of São Paulo).

Using content analysis, we established universes, units, categories and subcategories of analysis that directed the way information was evaluated. The universe was divided into three parts, in compliance with the selection for the research body: i) Startups; ii) traditional media of local and national scopes; and iii) investment funds and organisations of development in innovation. The units of analysis were divided in four: i) interviews with administrators; ii) evaluation of the organisation's systems; iii) media reports; and iv) annual reports issued by the *Sistema Paulista de Parques Tecnológicos* (SPTec). As a result, we selected in this study four units of analysis according to the peculiarities of each universe of research, the categories of analysis also adequate to the differentiations established. The chosen categories are: i) innovativeness; ii) maturity; iii) triple helix model; and iv) development of innovation in communication. Lastly, we established twelve subcategories from those categories to define the object under evaluation with the highest accuracy. The Images 1 to 3 synthesise the methodological model used in this study.

Image 1: Methodology of analysis – Startups



Source: Prepared by the author.

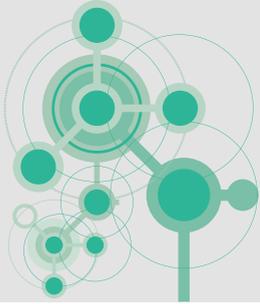
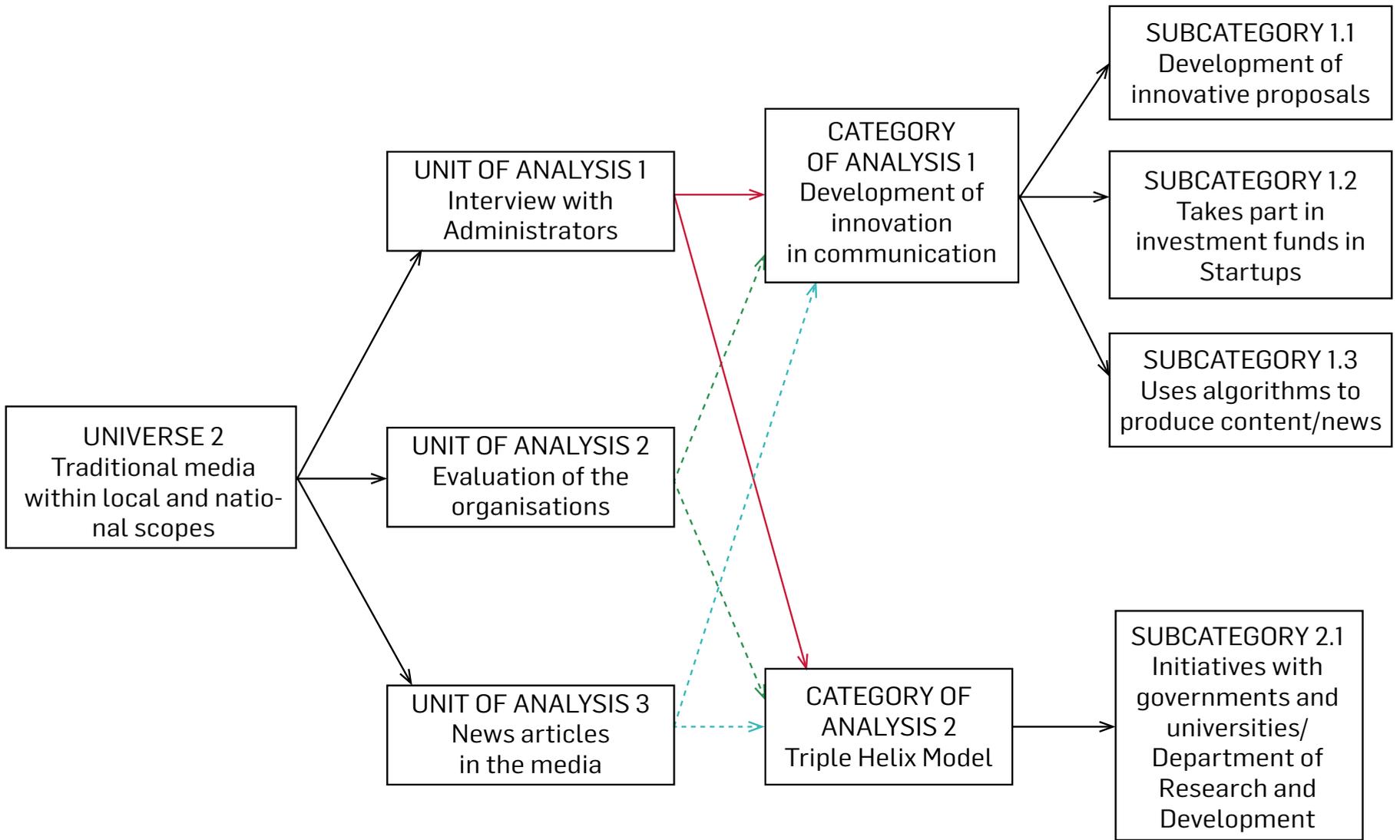
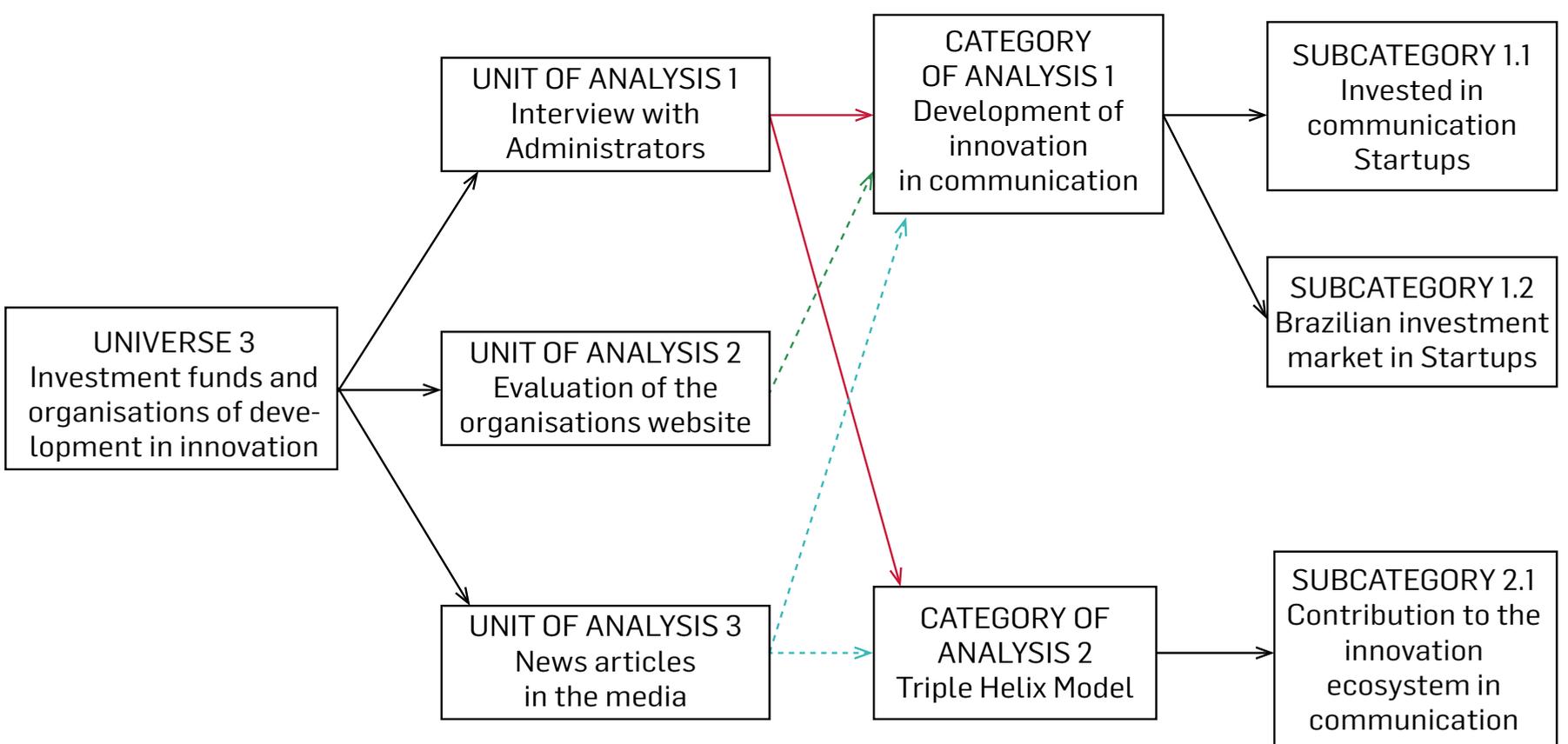


Image 2: Methodology of analysis – traditional media in the local and national scopes

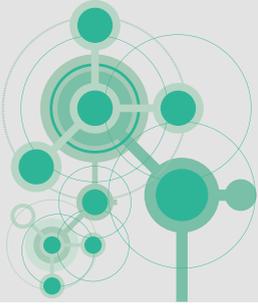


Source: Prepared by the author.

Image 3: Methodology of analysis – investment funds and organisations of development in innovation



Source: Prepared by the author.



ANALYSIS AND RESULTS

Universe 1: Startups

Category of analysis 1: Innovativeness

Subcategory: Cultural orientation (values and beliefs)

The values and beliefs of the startups evaluated in this work demonstrated strong bonds with the capability of developing innovation. All the startups stated that innovation in communication goes through digital universes, which already showed a distinct belief from the established media that invest time and energy in the traditional model of communication. In the startups, we noticed that the responsibility for innovation is equally spread throughout the organisation, with many ideas that emerge from the bottom to the top. As a result, the work is highly collaborative, with the energy focused towards the staff.

Subcategory: Disposition and capability of adopting new technologies, processes and ideas to offer new and exclusive products and services

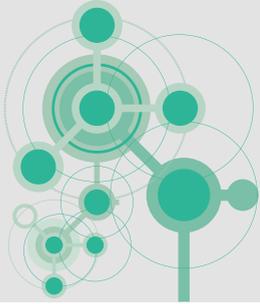
The higher disposition of the startups in taking risks, as well as in developing innovation that brings new methods and technologies, is present in several aspects of those companies, such as the value proposal. The interviewed startups are leaders in the segment they operate within the Brazilian market and presented a high level of innovativeness in the national scope. On the other hand, their disposition and capability of adopting new technologies, processes and ideas are lower when compared with the foreign market. Only one startup operates outside Brazil, more precisely in the United States of America.

The low rate of internationalization of those startups can be evaluated under various aspects. One aspect is their low level of innovativeness in comparison to their competitors from other countries. Another preponderant factor is their lack of resources, considering that the only Brazilian company that operates abroad used all the foreign investment received in 2016 to develop products and services for their office in another country. As the international funds are reluctant to invest in Brazilian startups that do not have operations outside Brazil, a controversy was created: those startups cannot reach the foreign market, because they do not have financing available, among other reasons.

Regarding the value proposal of the selected startups, we observed how they operate, mainly in the marketing area, as i) advertising providers; ii) consulting services in the appliance of resources in digital media; iii) content marketing; iv) monitoring of social networks to measure the influence of brands. The startups that stand out the most in the Brazilian media market produce content focused on the needs of the clients, or perform services focused on advertising.

Although they had developed their own technologies, the startups usually need search engines, such as Google, and digital social networks, such as Facebook and Snapchat, besides content distribution platforms like YouTube to operate in the market. While they open the possibility for other companies to work in collaboration with them, the new media narrow the innovation as they combine new products and services to the technologies they own. The result is the creation of innovative companies in national markets, such as the Brazilian startups, that do not have a larger participation in the global scope.

This aspect explains, at least in part, the inexistence of startups with journalistic content production as their proposal of value. Although this type of technology-based company is preponderant in the international academic studies (Bruno; Nielsen, 2012; Powers; Zambrano, 2016; Sirkkunen; Cook, 2012), we did not verify the same aspect in this research. As the main selection criterion



in this study was the receipt of investment fund contribution, the Brazilian journalism startups demonstrated a low level of business maturity. It may also indicate that journalism tends to be divided even further between large and small companies. While the small companies are more agile, independent and often administrated by entrepreneur journalists specialised in local content, the large companies are in smaller number and possibly with less revenue, aiming at the national market. The smaller companies are preponderantly innovative startups based on the Internet, while the large companies tend to be established media companies.

Category of analysis 2: Maturity

Subcategory: The founders operate in the administration of the company and have experience in their roles, or the company adopts corporative governance tools

All the startups that participated in this research showed a good level of maturity in this category. One of them is Predicta, which is audited by an outsourcing company and has an administrative council. This council has elected a president to run the company in compliance with the strategic planning established. To reach such position, the company counted with a contribution made by the investment fund e.Bricks. This enabled the company to radically change its path in 2011. The entrepreneurs that founded the company took over more strategic roles and let the business administration to the daily routine. The number of employees was drastically reduced: from 200 to 40. The company started to focus not only on digital media services but also on consulting and other business.

The other startups did not reach the same position of Predicta, but all of them have their founders working as company administrators. They also have professional experience in the development of startups and some of them have worked in large companies before becoming entrepreneurs.

Subcategory: received contribution(s) from investment fund(s) or was accelerated

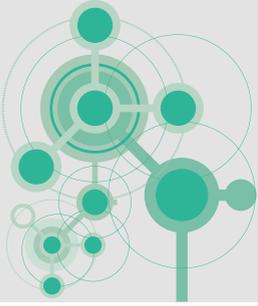
The World Economic Forum (2013) points out that the access to investment funds and resources is another essential pillar of entrepreneurship. The evaluated startups also stand out in this manner. All of them received a type of financial incentive, whether through investment funds, family offices or startup accelerators. In this regard, we can verify a certain level of business maturation in the Brazilian communication startups evaluated in this research, even when compared to European and North American startups within the same area of operation. Bruno and Nielsen (2012) mentioned only one startup, amongst nine participants of the study, that received resources from venture capital. Sirkkunen and Cook (2012), whose research encompassed a universe of 69 startups in 9 countries, did not mention a similar case.

Only two Brazilian startups featured in this study did not receive contributions from investment funds. However, they were accelerated in prominent programs of national scope, such as the Seed program (Startups and Entrepreneurship Ecosystem Development), in Minas Gerais, and the Ahead program, by the Startup Farm.

Category of analysis 3: Triple Helix Model

Subcategory: Company graduated after incubation, established in a university or a research centre

None of the evaluated startups went through business incubator programs or were established in a university or a research centre. Most of the startups were created by entrepreneurs that met each other during events organised by the private sector or the entrepreneurial community. In addition, none of the interviewed entrepreneurs reported the need of seeking a business incubator, a university or a research centre to aid them in the business structuring process or technology development.



Therefore, the Triple Helix Model has not been showing significant results for the formation and development of communication startups in Brazil. The central elements of the Model, based mainly on the cooperation between government, university and company, did not contribute in a significant manner to the creation and development of any of the startups evaluated. The exceptions are: one of the startups was accelerated in a private sector program and two media business groups established investment funds in communication startups.

Subcategory: Evaluation of the Sistema Paulista de Parques Tecnológicos (SPTec)

The *Sistema Paulista de Parques Tecnológicos* (SPTec) was established in 2006 to integrate and systematise the efforts in promoting those innovation spaces. In 2016, there were 11 parks spread around 10 cities in the state of São Paulo, and most of them were located within 200 kilometres from the state's capital. Although the SPTec is one of the most organised systems in Brazil regarding integration between companies, universities and government, there are still some problems, such as:

- i. Huge dependency on the government as an investor. Few parks, such as São José dos Campos and Piracicaba parks, received resources from private companies. The remaining parks depended on federal, municipal and state governments to create an infrastructure and maintain their activities. In cases such as the Ribeirão Preto's park, nearly all the resources originated from municipal public coffers (São Paulo, 2014, 2015, 2016).
- ii. Reduced or inexistent integration of local companies with the parks. In the *Parque Tecnológico de Piracicaba* (Technology Park of Piracicaba), for example, the administrators reported low acceptance from local entrepreneurs in the adoption of new technologies generated by the parks' resident companies (São Paulo, 2014).
- iii. Lack of programs that integrate efforts between several entities of the innovation ecosystem. In São José dos Campos, the *Centros de Desenvolvimento Tecnológicos* (CDT, Technological Development Centres) were created. They are constituted by corporate clusters in which large companies conduct projects of research, development and innovation (R&D&I), partnering with universities, institutions of science and technology (*Instituições de Ciência e Tecnologia*–ICT) and smaller companies. The initiative was crucial to achieving good results.

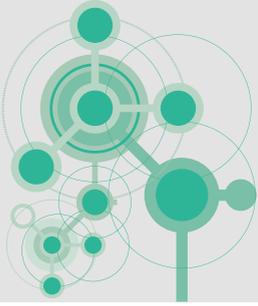
This evaluation demonstrates that the Triple Helix Model presents flaws in Brazil, not just in the innovation ecosystem in communication. It is not surprising that there are no startups aimed at innovation in communication within the SPTec, since none of the startups evaluated has passed by a business incubator or was established in a university. However, some flaws of the Model in the parks of São Paulo portray the generalised reality in the country, which affects all areas. The most noticeable flaws are a) the reduced participation of the private sector in investments of research and innovation; b) the lack of cohesion between agents in the Brazilian system of innovation.

Universe 2: Traditional media within local and national scopes

Category of analysis 1: Development of innovation in communication

Subcategory: Development of innovative proposals

No Brazilian media companies developed a radical or disruptive innovation in history. A problem is that the media companies do not develop such innovations and do not move towards this objective. The development of innovative proposals has been reactive, in compliance with what has been done in the international market and from technologies created abroad. When they deviate from the foreign scenario, they add little to the proposals of company values. The way Brazilian media companies are dealing with the changes brought about by innovation helps to explain why innovation has been little practiced.



Regarding the efforts deployed to innovate, Boyles (2016) states that the journalistic organisations essentially take two paths to innovation. Some of them concentrate their energy and resources in the purchase of rival startups or the creation of spin-offs. The other group is seeking for experimentation in their own editorial departments. However, the first option was not implemented in Brazil. Apart from the Grupo RBS and Abril companies, no other large media group, whether in national or local scopes, created spin-offs or invested in media startups. Regarding intrapreneurship, all the interviewed companies stated that they encourage the development of innovative proposals within the corporation. However, the same interviewees admitted there are several challenges to overcome within the corporation for the results to be effective. Among the main companies, we can highlight the difficulty faced by administrators in developing innovation in parallel to the daily tasks, as well as the hindrances generated by administrative routines and hierarchical structures.

Subcategory: Participation in investment funds

Among all the interviewees, only two Brazilian media groups created or participated in investment funds aimed at startups or innovative companies, going against the global trend. The legal aspects stood out as one of the main factors in those cases. The Brazilian Constitution states that a minimum of 70% of the voting capital from media companies belong to native Brazilian citizens or naturalised for more than 10 years. Presidents and directors of media groups in the broadcasting area supported changes in the legislation to allow the entrance of foreign capital in the firms.

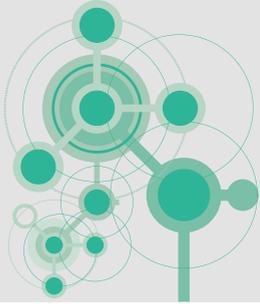
Also, according to half of the interviewed administrators, the international competitors do not subjugate to Brazilian laws and have an abundance of resources with much lower costs when compared to Brazil's reality. The presidents of the local media groups unanimously stated that the capital costs are high, showing that the low capability of investment is an obstacle to innovation. It is worth mentioning that the *Grupo RBS*, right after creating the *e.Bricks* investment fund, sold two important assets. The *Grupo Abril*, as much as the *Grupo RBS*, also sold assets after creating the investment fund *Abril Par*. However, the most important factor was the sale of company shares to the South African media group Naspers.

Subcategory: Use of algorithms in the content/news production

Media is among the main areas for innovative technology applications, as the mass media intensively automatized with the evolution of technology. Algorithms and artificial intelligence are being employed to improve the news creation, distribution and consumption, such as the Natural Language Generation (NLG). This innovative technology uses raw data, such as meteorological numbers and cost sheets, in the production of texts without human intervention (Reiter; Dale, 1997). Despite the wide application of those resources, no communication media in Brazil uses the NLG technology, and the interviewed administrators showed scepticism and disbelief towards the algorithms and artificial intelligence.

They recognise that such technologies are promising. However, they do not foresee a larger integration in a short term. The interviewees showed concern with the technology costs, as the cost-benefit relationship is not satisfactory to reducing expenses. That was very clear in the open TV sector, in which the NLG still does not have a striking presence. Besides the high cost, some interviewees pointed out problems concerning legal and normative factors, as the algorithmic technology substantially alters the news productive system. Beyond staff redundancies, the adoption of algorithms represents a change in the routine of journalists and in the structure of job positions in the editorial departments.

In consonance to what has been observed in studies around the globe (Karlsen; Stavelin, 2013), the organisational culture of the main Brazilian media companies did not internalise mechanisms of integration between man and machine for the news production. Only one of the interviewees in this research stated categorically that it would be good if the journalist focused less on mechanical activities, such as the investigation of facts, while machines gather data and generate less elaborated texts.



Category of analysis 2: Triple Helix Model

Subcategory: Initiatives with governments and universities/Department of research and development

The media companies, national and local, that participated in the empirical survey conducted in this thesis do not have any relation with universities or entities connected to government. This factor shows the absence of research and development (R&D) for innovation in the Brazilian media companies. In foreign countries, media companies or class organisations that defend the interests of those companies are working in partnership with research institutes. The administrators consulted in this research stated that they seek innovation through techniques such as benchmarking. This tactic, however, depends on substantial investments in equipment and IT products, as well as brand licensing. Applied research could help media companies to find market opportunities, as well as to strengthen ties with startups.

Reflecting the same scenario from the startups, the Triple Helix Model has not been achieving results due to the distancing of the productive sector in relation to other ecosystem entities: government and universities. The distances are not only refraining a collaborative work, but also harming the whole Brazilian innovation system, which ends up fragile and loses efficiency as the entities do not work together as they should. This statement goes toward other studies that evaluated all the Brazilian innovation system and not only the ecosystem of the communication area (Mazzucato; Penna, 2016).

Universe 3: Investment funds and organisations of development in innovation

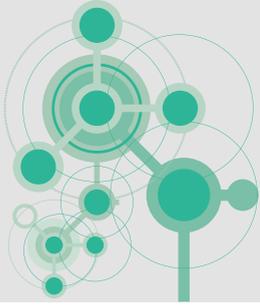
Category of analysis 1: Development of innovation in communication

Subcategory: Investment in communication startups

Although the investment funds and organisations of development in innovation have a crucial role in the innovation ecosystems, they have a small participation in Brazil. None of the investment funds consulted in this work invested in communication startups linked to journalism or advertising.

Those investment funds prefer to evaluate the innovation proposals by company profile instead of segments. They demonstrated appreciation towards startups as "a team of class A founders, very complementary, that has been fighting against a relevant problem, within a wide market and with the use of technology/Internet as one of its pillars of operation", as stated by one of the interviewees. The investment funds do not evaluate if the startups are part of a specific segment but the aspects such as the value proposal. As many startups seek to increase the sales and financial results of the clients, they do not necessarily deal with innovation in communication.

The contest *Concurso Acelera Fiesp*, promoted by the *Federação das Indústrias do Estado de São Paulo* (Federation of Industries of the State of São Paulo), created in 2016 a category focused on communication startups. Unlike investment funds, the organizing committee of the competition highlighted the importance of communication startups moving forward in areas such as digital curation, in the face of the sheer amount of fake news on the Internet. Another discrepancy regarding investment funds is the number of communication startups in Brazil. While the number is considered high for investment funds, especially in the area of digital advertising, the organization of *Acelera Fiesp* believes that the number of those startups is low. The Coordination believes that entrepreneurship in Brazil is an alternative revenue for many unemployed and there is a small number of investors in the country.



Subcategory: Brazilian investment market in startups

Ranking elaborated by the World Economic Forum (2016) places Brazil at the 92nd position, from a total of 139, about the availability of venture capital. The issues in the country are mainly related to the weakness of the regulatory environment, as well as the availability of venture capital.

Brazil has been making progress regarding the regulatory environment. In addition to the enactment of the law that regulated the investment year in the country, the *Comissão de Valores Imobiliários* (CBM, Securities and Exchange Commission of Brazil) implemented the regulation for crowdfunding investment, creating a safer and more effective regulatory environment for many sectors, including media. The CBM offers a unique opportunity to many Brazilian media companies, including from the broadcasting sector, which faces several difficulties to remain active or invested. Despite the regulatory advances, the investment in venture capital corresponded to approximately 0.220% of the Gross Domestic Product (GDP) of 2016 in Brazil (A importância..., 2017).

Category of analysis 2: Triple Helix Model

Subcategory: Contribution to the innovation ecosystem in communication

The behaviour of Brazilian investment funds does not differ from other countries. The difference lies in the amplitude of capital. According to Bellavitis *et al.* (2016), the financing of venture capital represents a small part of business finances in developed countries and is even smaller in emerging markets. That situation is exacerbated by the fact that business ventures in emerging markets have relatively low levels of corporate transparency or required and applied disclosures. Those aspects endorse the results achieved in this research. Only one evaluated startup created corporate governance tools, such as Administrative Council and external audit.

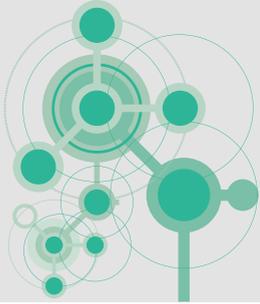
The entrepreneurs have been searching for alternatives, considering market limitations in meeting the needs for financing sources. Microcredit, crowdfunding or peer-to-peer lending are the ones that stand out the most (Bruton *et al.*, 2014). In Brazil, these new financing sources are still very incipient and have not been applied yet. For that, the creation of spin-off's or smaller firms is needed, which also has not been applied.

CONCLUSIONS

We noticed that, in all the universes of research, the main innovation movements in communication in Brazil are much lower than in developed countries. The innovations found were incremental in all the universes of research. The national market of innovation in communication is very reduced in certain aspects (e.g., the use of algorithms and artificial intelligence in content production), and incipient in others (e.g., the participation in investment funds in startups). Considering the general objective of this research, no companies or institutions stood out in any category of analysis and universe of research when comparing their operation in Brazil in relation to the foreign market.

The evaluation of the Brazilian innovation ecosystem in communication produced several findings. The most obvious finding is that all entities must improve in many aspects. The factor that weighs most against the country in terms of innovation is not the lack of resources, but the connection. The interaction between the various entities of the innovation ecosystem is weak and incipient.

The hiatus between academy and production sector is indicative of how much the Brazilian education sector suffers from structural problems that go beyond the financial matter. Similarly, traditional media companies need to take on the leading



role. Successful experiences abroad show that governments play a crucial role as inducers of innovation, but the companies need to take more risks.

Innovation is something that is built daily. Therefore, it is not possible to approach innovation while skipping practice. For that, new paths must be tried. This was the objective of this research: to some way interfere in this ecosystem by helping to understand it better and bringing subsidies to new attitudes.

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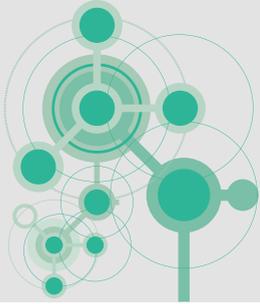
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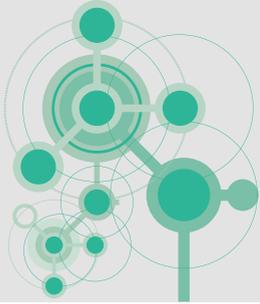
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