Developing Game Worlds:

Gaming, Technology, and Innovation in Peru

by

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Abstract

In this work, I've documented the origins, growth and structure of the Peruvian video game industry.

Because of its underground origins, the Peruvian game industry provides an alternative, more organic gateway to developing technology industries than forms of the "technological sublime" that have been recurrent over Peruvian technological history. Driven by creative rather than commercial objectives, people interested in game development figure out ways to get around gaps in existing training options to acquire the interdisciplinary skills they need to create games — setting up alternative infrastructures to connect to each other, share information, and set up collaborations. Peruvian developers are also experimenting with ways to gain access to global networks and markets, which affects their design decisions and how they present themselves to peers and customers around the world. Games designed to present local cultural elements for international audiences — which I've called "borderland games" — have become sites where tension around self-presentation gets played out.

Game studios are experimenting with various configurations of business practices, figuring out empirically what arrangements put them on the better path to engage international partners and secure creative and financial sustainability. Studios are collaborating with each other to address structural barriers affecting the industry as a whole, which is putting them in a stronger position to engage government agencies and gain support to address structural issues.

This relatively unknown industry has been able to introduce complex skills and work around structural gaps and obstacles to create the foundations for a potentially viable technology and creative industry. How, exactly, the industry will develop remains to be seen, but its evolution can provide interesting lessons for the emergence of digital creative industries in developing economies.

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The Entrepreneurial Republic

In the early 2000s, Peru went through an especially significant political transition. The questionable legitimacy of Alberto Fujimori's regime had begun to shake violently as a series of corruption scandals began to emerge and bring to light the immensity of a criminal apparatus that had taken over the Peruvian state and co-opted most of its institutions. A number of secret video recordings were brought to public attention explicitly showing the mechanisms through which the regime exerted control over legislative and judicial branches of government in order tu further itself in power. The Fujimori regime eventually crumbled in late 2000, opening the way for a democratic transition led by Valentín Paniagua, designated by Congress to assemble a transition cabinet that would purge the government from this massive corruption apparatus and call for new elections within a few months.

The ensuing political campaign became a contest between individuals promising various ways to bring the country out of economic stagnation and political trauma. The contest was ultimately decided between Alejandro Toledo, an economist who had been one of the leaders of the opposition during the final years of the Fujimori regime, and Alan García, who had surprisingly returned to the country and emerged as one of the frontrunners after having virtually collapsed the country during his first presidency in the 1980s — with Toledo emerging victorious in the end.

Games were not indifferent to this contest, nor unaffected by this process. During the 2001 presidential campaign, the Twin Eagles Group (TEG) — whose history

I explored at length in chapter two — released *The King of Peru 2: The Final Mecha* (*KoP2*), the first independently developed game to be locally distributed and marketed[1]. *KoP2* was a fighting game starring the main political personalities of the time — such as Fujimori, Toledo, and García — as playable characters who were duking it out over control of the government. It was meant to be satirical, light-hearted, and to capitalise on the popularity of the political themes being discussed at the time, even if the game itself didn't ultimately seem to advocate for any specific candidate or explicitly address or push any given agenda.

KoP2 is interesting for many reasons — its landmark status as the first locally developed and locally distributed game chief among them. But the game also marks the transition for TEG from being a primarily informal coding group to a more cleanly structured commercial venture. But as we saw in chapter two, this transition was ultimately unsuccessful for TEG for various reasons, and *KoP2* became, in many ways, the end point of one of the early stages in the history of the Peruvian video game industry. The next generation of studio projects would very consciously walk in different directions: clear structures rather than loose assemblages, foreign markets rather than domestic ones, minimise risk rather than maximise exposure. The result of this shift in direction is the industrial configurations explored at length in the previous chapter.

There are additional transitions to underline here. To a large extent, TEG was able to bring together a community of like-minded coders because of an environment that was very tolerable to informality, and very lenient towards regulating the domains where TEG operated — intellectual property, for example. Neoliberal reforms of the 1990s that where supposedly designed to stimulate entrepreneurship and risk-taking in the economy, very much following the policy recommendations of economists such as Hernando De Soto (2005), had terrible effects on loosely-structured ventures such as TEG, which thrived on the possibility spaces created by gaps in regulation or enforcement.

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[1]The game was a follow-up and an expansion on the original *The King of Peru*, which shared a similar premise but was smaller in scope and had no plans for commercial distribution.

Even still, these public policy transformations did not kill the industry. And in the renewed institutional arrangements put in place after the democratic transition of the early 2000s, video games have been able not only to carve a niche for themselves in terms of their relationship to government, but also to nurture that relationship by exploiting various key structural advantages and fortuitous opportunities to the point where how the game industry has managed to engage multiple layers of the political apparatus have translated into exceptional forms of support and collaboration than those available for other creative industries. Despite ups and downs, and a considerable amount of pure luck, the game industry has managed to structure the foundations of a very interesting reinterpretation of how creative industries in strongly neoliberal, *laissez faire* institutional arrangements can actually manage to productively engage government agencies and public policy makers. A key to strengthening those relationships have been the emerging institutions the game industry is creating to collect and articulate interests, concerns, and needs in ways that can be productive for the sector as a whole — a process I explored in more detail in the previous chapter.

In this chapter, I want to explore how the Peruvian game industry is reinterpreting how it engages government and public policy in a way that's exceptional from other creative industries in a context where these industries seldom receive major incentives or forms of support. I want to argue that this highlights the opportunities and possibilities for creative communities to develop forms of "insurgent citizenship" (Holston, 2009), where recognition from government and the state is not something that is formally granted but rather a process of negotiation, giving, and taking through which community participants become better engaged citizens — something that is clearly not something that necessarily happens, but rather an interesting possibility of what *can* happen. And I want to explore how governments can play a role in setting up the creative infrastructures and environments that enable these communities to thrive, grow, and contribute both culturally and economically — and perhaps even politically.

I will begin by describing various ways in which the game industry is currently engaging diverse areas and layers of government and public policy, based on data

collected during my fieldwork in Lima. I will then look more specifically at how the Peruvian government is creating incentives and support structures for technology industries in general, closely entangled with globally circulating trends and rhetorics, and how these support structures are or are not relevant to the local video game industry. Following this, I want to consider the infrastructures that enable and drive creative communities, and how diverse layers of government can influence them — and thinking about this both from the local and the regional perspective. Finally, I want to look at how the government itself structures many of its engagements with the game industry in terms of managing risk, and how the local industry has been able to accommodate for these requirements and expectations.

6.1 The Game of Politics

One cold morning in July, I got on a cab and braved rush hour traffic in Lima, heading east towards the Surco district. Lima is a massive city, and while I wasn't going very far, traffic during most of the day has grown to be unmanageable — public transportation investments have been unable to keep up with a city that keeps growing in complexity, just as the country's economic boom in recent years has stimulated an ever-growing number of automobile users. My cab driver that morning was particularly skilful, and he was able to turn what would have otherwise been an hour's drive into a barely-legal fifteen minute run.

The cab was taking me to the Peru Service Summit — an event I mentioned briefly in the previous chapter, organised by the PromPerú, the Peruvian tourism and export promotion agency. The Summit was a gathering of local producers interested in exporting across several key industries, with potential international clients and investors. The highlight of the Summit were its series of business rounds, where producers got to engage directly with prospects for a few minutes, showcasing some of their products, exchanging business cards, and if both skilful and lucky, maybe laying down the groundwork to negotiate a deal afterwards.

As I approached the venue for the event — a custom-made temporary structure

built on the grounds of one of Lima's private country clubs — I began to realise how I was not exactly ready for the event. International businesspeople (an overwhelming majority of which were men) were arriving by the busload, wearing everything from business casual to full dress suit attire, while I was showing up wearing my best *grad student chic.* The security guard at the door when I arrived gave me a quick glance up and down trying to interpret exactly why I was there, but as surprising as it was to both of us, I actually had an invitation: I was there for the video game industry workshop PromPerú had organised as part of the Summit. I flashed my invitation and promptly got pointed in the right direction. The venue had a large central space with lounge areas and LCD screens playing looped videos from PromPerú and the event's participants, and three adjacent larger spaces where conferences and business rounds were taking place.

The video game workshop was taking place in one of such larger spaces. As I arrived, a demo reel from various local game developers was projected in a loop on a screen above the stage, and the room was very slowly filling up — half an hour after the scheduled start people were still arriving and organisers seemed in no rush to get started. The crowd in that space, however, became increasingly diverse: there was a collection of people in business suits, but perhaps just as large a contingent of young people wearing hoodies and graphic t-shirts. The big draw for the video game workshop was the presence of representatives from two of the largest game publishers, Square Enix and Electronic Arts, to speak about the prospects and opportunities for video games in Latin America. They had been especially flown in for the event, with PromPerú covering the costs and local studios having worked at creating and building the relationship. Along with them, several representatives of the local industry were going to be talking about what was happening in the local context as well.

Once presentations actually get started, the video game market was painted optimistically in very broad strokes. An opening presentation by Juan José Miranda, founder of local game studio Pariwana Studios (a business unit of Magia Digital, an established digital technology studio in the local market) and vicepresident of the Pe-

Figure 6-1: The video games workshop at the Peru Service Summit, before presentations got started.

ruvian Software Association[2], was highly optimistic about the game industry's history and prospects, claiming over 200 published games that had been locally developed, and over 1000 jobs connected in one way or another to the industry. Later, in similar big picture terms, Electronic Arts's representative Mario Valle spoke highly of the prospects for emerging markets, especially Latin America and Africa, and the growing opportunities for entertainment experiences across multiple devices. He concluded by congratulating the Peruvian government for bringing attention to one of the most highly promising industries.

On a different note, Stephanie Prodanovich, representing Square Enix, had more things to say directly to developers as to how to orient their development process if they wanted to work with a more traditional publisher, and what publishers such as Square Enix were looking for: "we're looking for games that have a 'latin flavour', things highly specific to our culture" — voicing directly a big source of tension for local developers, afraid of being pigeonholed into highly specific cultural narratives.[3] Prodanovich's remarks were much more operational, as was the next presentation by

[2]A few months later, he'd also be elected as president of the Peruvian Software Association.
[3]As examined above in chapter four.

Sol Samaniego from local studio Bamtang Games, who announced the introduction of Sony Computer Entertainment's developer incubation program to Peru, and described how Bamtang had gained its way into the program and the opportunities it offered developers, as well as the technical and operational requirements they needed to fulfill to be eligible.

On the one hand, that this workshop — although nothing was really workshopped during the presentations — took place at all was remarkable in itself, and that PromPerú would agree to provide funding to get international industry representatives to present even more so. Only three other sectors got the same level of treatment at the Summit: BPO (business process outsourcing), book publishers, and information and communication technologies (ICT) infrastructure providers. Not only was the video game industry included for the business round portion of the Summit (implying PromPerú was taking a gamble by showcasing a relatively unknown sector to international clients, essentially bestowing it with a significant share of its social capital and brand power), it was also featured especially through the workshop to give it some exposure as an industry. Because of this, people in the industry were aware that, to a large extent, this was an opportunity to put together a performance towards the government — PromPerú in this case, an especially strategic potential partner in terms of international outreach — showcasing the potentials and opportunities of the industry, and making a clear case not only as to why the video game industry is meaningful, but also how the Peruvian industry specifically is ready to take its operations to the next level. The Summit was an exceptional form of support from the Peruvian government towards a creative industry, but it was also very much a test, a controlled environment for PromPerú's team to better understand just how well organised the game industry was, and how much they were in a position to accomplish. That the industry was able to come together to pull off the content management and relationship building for the event was undoubtedly one of the influencing factor leading PromPerú to agree to fund the country representation at the 2014 Game Developer Conference just a few months later (which we explored in detail in the previous chapter).

On the other hand, the workshop was also an exceptional opportunity for local developers to learn from international publishers, and for the industry members to better understand what exactly it would take for them to get the most value out of an event such as the Summit: in practice, only four or five studios where at the level where they could be showcased during the investment round to engage directly with international clients and deliver on potential commitments. During the workshop's presentations, participants also got to hear the announcement by Sol Samaniego, the manager of Bamtang Games, that Sony was expanding eligibility of their developer incubation program for studios based in Peru. She also went on to outline what the program's requirements and expectations were, a list which included not only a number of technical requirements, but also several organisational requirements for teams to be able to apply[4]. These interactions are especially important when we consider many of the gaps and needs emerging studios face in the local industry, such as the lack of mentoring opportunities or access to information about production and distribution processes. They provide pathways and templates studios can follow or, at the least, take into account as possible routes available to them as members of the local industry.

It is important to understand here that, from the point of view of government, PromPerú was taking a gamble. As we've already seen repeatedly, a social stigma remains attached to games in the public's perception — one that is commonly and easily reactivated and exploited by politicians and the media. Only a year before this was all happening, there was a bill introduced by a congressman that would've made it mandatory to install content filters that would block children from playing violent games in Internet *cabinas* (cybercafés) (El Comercio, 2012). Precisely because there's

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[4]A few months later, I was able to expand on these requirements in a conversation with Mike Foster, Sony's developer incubation program representative for Latin America. He explained to me how organisational requirements fit with Sony's strategy to preserve the quality of the Playstation ecosystem: because console development takes longer and is more expensive, studios need to have reached a series of specific milestones in their own evolution before they're ready to commit to the requirements of a console game. A studio's longevity and size, or their legal and tax status, all become flags that allow Sony to evaluate whether a studio is ready for larger, more demanding projects — even if it is impossible to assess beforehand whether said projects will end up being successful.

political capital to be gained from scapegoating games, there's a political risk attached to promoting them. Whenever the government has gotten involved with games in the past, it has been either because of intellectual property issues, or because of content regulation issues such as concerns around portrayals of violence.

While the inclusion of video games in the Peru Service Summit might not by itself signal a larger reversal in the understanding of games at the government level, it is still a remarkable shift from the usual rhetoric and approach government agencies adopt towards creative industries. It is also indicative of other patches of interest spread out across various areas and levels of government that have begun to think about what video games mean for them, and whether they're related to their sphere of influence.

One of such patches is the still relatively new Ministry of Culture,[5] which houses a recently created office for Audiovisual, Phonographic and New Media that I was able to visit at the Ministry's main location, the top floors of a massive 1970s building previously only partly occupied by the National Museum. It was there I learnt about how the office for Audiovisual, Phonographic and New Media is just beginning to think about how it can best support the game development community — decidedly interpreting it as falling within the larger umbrella of the cultural industries. To do so, however, the office is having to navigate around several issues, the first of which remains the systematic lack of resources for cultural promotion: even though culture has been elevated to the rank of a Ministry, it remains gravely underfunded when considering the vast range of cultural and media forms that fall under the Ministry's areas of interest. Yet even disregarding the lack of resources, the office is trying to come up with new creative ways for providing resources to the industry that are different from things they've tried with other cultural industries in the past, avoiding things such as establishing competitions or awards that, while straightforward, have only been mildly successful in actually driving up the amount of activity happening

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[5]The Peruvian Ministry of Culture was created in September 2010 to consolidate and strengthen government agencies and activities related to interculturality, cultural heritage, and cultural industries. It consolidated the management and operation of, among others, the National Institute of Culture, the National Library, the National Archives, and the public radio and television stations.

in areas such as film. Relatedly, the third big challenge they're facing is the lack of an understanding for how the sector operates, how large or small it is, and what its specific needs are: the Ministry is much more interested in trying to carve out resources for projects and initiatives that would directly address the structural needs for the industry, rather than providing momentary relief by funding a handful of projects.

Something the Ministry can contribute immediately, however, is clout: having a vested interest in the promotion of cultural expression across new forms of media, the Ministry can declare specific cultural projects as "being in the cultural interest of the Nation" — a category that bears little material weight, but that can be symbolically helpful for diplomatic, international or even promotional purposes. However, this does not mean that *any* game project developed in Peru is automatically eligible for this category: there's an evaluation process that looks at such things as how it addresses or incorporates cultural elements from local or regional traditions — once again, bringing up the tension around borderland games versus culturally agnostic games, discussed in chapter four — as well as reasonable expectations of quality and polish. From a broader point of view, the willingness of the Ministry of Culture to embrace video game projects as being culturally meaningful and "in the cultural interest of the Nation" represents a huge step towards overcoming the heavy stigma games still carry, and while material resources may seem scarce, this level of legitimation can go a long way in contributing to the industry's long term sustainability. The willingness from the Ministry to provide this level of recognition to the game industry can also contribute significantly to getting acknowledgement and support from other areas of government — similar to PromPerú transferring a share of its social capital through events such as the Summit, the Ministry can transact in terms of cultural capital lacking the resources to actually make direct financial investments.

On a different day, I make the trip to Lima's historical downtown area to meet with someone from the office for Cultural Industries within the Lima city government. I arrived here following a recommendation from a developer I interviewed, tipping me off to the city government's nascent interest in considering the game industry and

developing offerings speciic to that target audience. The office for Cultural Industries was located in the upper floors of an old *casona*, the name for traditional colonial houses that remain standing to this day, in this case also housing the newly renovated Municipal Museum. The office for Cultural Industries approach towards the game industry was very similar to the Ministry of Culture's, and their understanding roughly the same: while they had begun to perceive the need to become more involved with video games and the game development community, they didn't have the resources to provide much direct material support, and even more importantly, they were also lacking an understanding of the industry that would enable them to create effective support mechanisms or design public policy.

Instead, they were trying to come up with alternatives, again decidedly from the understanding that games fell under the larger umbrella of the cultural industries — and as such, that successful initiatives that had worked with one industry could reasonably be transposed and translated to work with another one. Their thinking, still in its early stages, was to build on learning and skill building projects that had worked with other creative industries, notably the film industry, to open up spaces for engaging specialised talent around key areas of need the industry had — something that was working successfully around such things as screen-writing or production skills for the film industry. Their expectation was that a similar model could be put in place for the game industry, but again, with the additional obstacle that the office for Cultural Industries did not have a fully built sense of what the key areas of need would be. The office's overarching goal was to provide the support and hand-holding local studios in Lima would need to be able to engage larger international forums to showcase their product, with the South American Cultural Industries Market (MICSUR) being their primary point of reference. The office had already had positive results in connecting local creative ventures to forums such as MICSUR, and their hope was they'd be able to replicate that with games.

These conversations and attitudes broadly encompass the range of interest around video games coming from the government that goes beyond scapegoating and content regulation, and that potentially point towards reduced stigma and larger opportuni-

ties for collaboration — in conversations and interviews, I learnt about at least two other Ministries that were either interested in or already engaging in projects with the game industry. The government's involvement is coming from multiple areas, but mostly clustering around two: strengthening the supply side by providing resources, skills, or acknowledgement; or strengthening the demand side, by providing connections, reach, and exposure. There is no master plan as to how these contributions are made, and there is also no clear assessment from either side — government or industry — as to what's needed and what's prioritary. Along that same line, there's also no consensus as to, exactly, what sort of industry games are: as seen above, some are approaching it from the point of view of the cultural industries and applying similar policies and initiatives to this new media form. As I explained in the previous chapter, this ambiguity can sometimes play to the industry's favour, providing studios with access to different opportunities contingent on how they choose to align themselves.

6.2   Startup Nation

Shortly after I arrived in Lima, I met with Carlos, the head of a local studio, in their office. The studio works under the internal incubation model described in the previous chapter, meaning that it represents one business unit within a larger organisation with different products and services. This organisation in particular is a technology development firm working in various forms of interactive media and software development, and as such they're connected to many different aspects of the local technology industry.

As soon as I arrived for my meeting, Carlos was waiting for me out in the street right in front of his office. He explained to me how he had to deliver some urgent paperwork not far from where we were in Miraflores, that he'd drive us there and we could talk on the way. We got on his car and sped off towards the neighbouring district of San Isidro hoping to beat the traffic in Lima so we could get there before the government agency we were looking for closed up shop for the day. Despite him driving very fast, we couldn't really go much faster than traffic would allow.

Along the way, Carlos began explaining to me how the landscape for the local tech industry had changed significantly in the previous few years. Where previously there had been nothing but scepticism about the prospect of a locally-grown technology industry, government agencies and politicians had slowly begun to change their attitude and grow more amicable to the notion of providing stronger support networks and improved access to resources. What many people were realising, he explained to me, was that the current economic boom couldn't possibly last forever, and that the country's economy needed to diversify in order to become more resilient. As a result of this attitude shift, a number of institutional realignments were taking place in both the public and private sectors, and a battery of new initiatives were being set up with the purpose of strengthening technology-based industries and using new technologies to drive innovation in existing productive sectors.

He was explaining this to me because that was the very reason we were rushing through the streets of Miraflores: his company had put together a proposal to apply for a newly created government fund for innovation projects, and the deadline for applications was only a few minutes away. At stake on us getting there were potentially hundreds of thousands of soles in grant money that would go primarily into research and development.

The fund his company was applying to is called FINCyT, the National Science and Technology Innovation Fund, which had been only been set up within the previous two yeas and was definitely a novelty for the Peruvian government (FINCyT, 2014). FINCyT was looking to encourage investment into productive innovation projects — research and development projects which could be carried out in the short- and mid-term and would result in the introduction of products and services that could potentially benefit an entire productive sector. This is one of the things that sets FINCyT apart from other forms of funding for projects: FINCyT would not finance such things as a factory expansion, or acquisition of machinery, because these would be changes that would only benefit a single firm, and would only result in the linear expansion of their core business. Instead, FINCyT is looking for the innovations that would transform not only a firm's, but an industry's way of doing business, resulting

in technologies that could be licensed to other companies in the country or the region. FINCyT actually encourages inter-firm collaborations by establishing a tiered model where larger partnership are eligible for larger funding packages: if multiple companies within a sector pair together with one or more local universities, they're eligible for significantly more financing than if they were applying on their own.

Carlos explains all of this to me as he continues to navigate towards the FINCyT office. He also explains how the fund was designed to introduce completely new mechanisms into government funding of RD projects and technology industries. The initial iteration of the fund was set up on a grant from the Inter-American Development Bank (IADB) and was basically driven by the IADB's interest in strengthening the Latin American region's capacity for developing technology industries. After a successful first run, the program was handed over to the Peruvian government, who's been running the application process and providing the funds yearly ever since. The program has also expanded, incorporating new alternatives to the options of projects that are eligible for financing, such as technical missions for industry partnerships to travel abroad and visit their peers in different countries[6].

FINCyT is also different in that it provides companies or partnerships with non-reimbursable grant funds, and while there is an expectation that the funded parties will carry out their project as presented in their proposal, there is an understanding that there's a measure of risk associated to it. Even still, the fund is structured so that financed parties are also assuming a significant share of the risk associated: FINCyT will under no circumstance cover the entirety of the costs for a project, but will only provide funding up to a pre-established share of the total budget (the size of that share is contingent on how many companies are applying to the fund in a partnership) and only up to a maximum amount relative to the type of funding being requested.

But FINCyT is not the only novelty in this landscape. The government has also launched the Competitiveness Research and Development Fund, or FIDECOM,

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[6]This was the alternative chosen by the group who secured government funding to attend GDC, mentioned in the previous chapter.

which is focused on bolstering companies' capacity to operate at the international level and is designed to be more accommodating to the needs of small and medium sized companies (Innóvate Perú - FIDECOM, 2014). FIDECOM similarly covers productive innovation projects like FINCyT, but their funding it more closely targeted towards projects that boost productivity and competitiveness, as well as skill-building projects for the training of human resources. FIDECOM covers up to 75% of a project's cost, up to a maximum of about S/.400,000 and a 24-month timeframe.

Carlos managed to get us to the FINCyT office right in time to drop off the paperwork, and as we drove back he was describing for me how this was not only an entirely new situation for the local tech industry, but also an extremely good time to be involved with these initiatives. But he also explained why they weren't designed to be available to everybody: funds such as FINCyT or FIDECOM were not available to early stage ventures, listing as their requirements such things as having been a legally established company for at least a year before applying, and other similar organisational and fiscal requirements. These funds are targeted to established firms interesting in introducing innovations into their existing operations, or to explore the possibility of branching into different markets, but they're not designed to provide seed funding or startup capital for people trying to experiment on their own with new ideas. Carlos explained to me how it was larger companies that were moving in very fast to take advantage of these to improve their processes and products, but smaller companies were either left out or forced to collaborate with larger players if they wanted to apply.

In late 2013, the Peruvian Ministry of Production announced the launch of Startup Perú, an initiative providing seed funding for early stage ventures in technology industries, along with mentoring resources to develop and validate a business plan capable of attracting outside investment — addressing precisely that gap. Startup Perú is modelled on both Startup Chile and Startup Brazil, but unlike those programs, it is only eligible for teams primarily from Peru (Startup Chile is aimed exclusively to foreign teams, while Startup Brazil accepts both). PulsoSocial, a blog covering startups in Latin America, described it as follows:

The Start-Up Perú initiative is expected to provide support to 200 startups over the next five years by way of seed capital and other services. The expectation is that a large number of these startups will go on to receive capital from private entities to continue growing their businesses. Program organizers also hope to generate more success stories with an impact that is both global and local, improving the standards of innovation in the country.

Though foreigners are welcome to apply to the program, it has clearly been designed to benefit Peruvian citizens and residents most. The majority of a team's members must be from and/or reside in Perú. (Stewart, 2013)

Further still, Startup Peru is branded as a collaboration between the Ministries of Production and Finance, as well as CONCYTEC and FINCYT — an interesting, albeit exceptional instance of collaboration between areas of the Peruvian government. The program, mediated through local startup incubators, provides startups with funding between S/.50,000 and S/.137,000 thousand depending on the type of project applying, and invests at an earlier stage in the process than other funds.

The interesting thing about all these initiatives is how they're part of an emerging trend of similar funds and structures that have become a component of a broader discourse around technology, entrepreneurship and innovation that has become commonplace in Peru and other places around the world over the last few years. As the world fell into recession, national economies collapsed, and unemployment soared, Silicon Valley appeared to be one of the few places remaining in the industrialised world that still had jobs available. The Silicon Valley way of doing things began to be advertised as the path to follow out of the recession, roughly under the belief that "software is eating the world", as articulated by technology founder and venture capitalist Marc Andreessen in a Wall Street Journal essay: that problems in sectors other than technology, such as healthcare or education, were ready for being taken over by technology startups (Andreessen, 2011). As part of this trend, countries around the world — especially in the developing world — are looking for the best

way to jump-start their local technology industries to create their own local versions of Silicon Valley.

But how, exactly, do game studios fit within this grand narrative of technological transformation? In chapter two, I've made the argument that the game industry has evolved out of messy arrangement that did not cleanly fit into the officially-sanctioned narratives of transforming the country through digital technologies — the latest iteration of the technological sublime. This remains partially the case: games are not necessarily the image most people in Peru would associate with their vision for a locally-grown Silicon Valley. And the way these funds are designed would almost seem to reinforce that, as the application requirements for many of these programs simply do not lend themselves well for game studio projects. For example, while funds such as FINCyT or FIDECOM emphasise the development of new technologies that can impact a sector, game projects do not necessarily fit under such description: technologies are developed, but usually as end-user products that do not necessarily reflect back on production processes.

However, this could easily be attributed to the confusing nature in which the game industry is structured as a business operation, where funding turns to flow at the project level rather than at the firm level — which is where these programs are more heavily focused. For game studios to be eligible for these programs, they need to have a clearer vision of how they work as part of the technology industry, and how they can contribute significantly from a technological point of view — for example, thinking about software elements they develop such as game engines, or helper tools, which are the tools that support their development process, and in many cases can turn into the intellectual property that radically differentiates a studio or a local industry from another. Studios have begun to think about these reframings already: in many of the industry meetings I attended, programs such as FINCyT and FIDECOM where mentioned and referenced heavily as opportunities studios should consider exploring. And there's already precedent established of game-related organisations receiving funding from these programs for technical missions to travel abroad.

That these programs exist is highly exceptional. While some very limited forms of

support, especially financial support, are available for such creative industries as books or film, these are very limited in scope and diversity. These industries, despite having been around for a longer time, have not been able to solidify their communities in a way that could more effectively push government for support, nor do their industries grant them the latitude to reinterpret their projects and operations to be more aligned with a different, more promising industry — such as games are able to do with technology. However, the mapping between games and technology and innovation funding programs is not straightforward. But because of its longer history and more engaged community, the game industry could very well leverage these opportunities to strengthen their technological base and provide itself with key intellectual property that could open entirely new lines of business.

6.3 Innovation "Ecosystems"

Technology startups have been able to attract a different level of attention recently because digital technologies have become the new promise of modernity associated to the latest economic boom (as explored in detail in chapter two). Startups have become quite fashionable in international development, with not only Peru, but even more so countries throughout the Latin American region and the rest of the world suddenly competing fiercely to establish their own technology entrepreneurship hubs following as closely as possible the model of Silicon Valley. As an illustration, a sample of initiatives that are popping out throughout the region to pursue the promise of having a Silicon Valley in your own backyard include entrepreneurship communities that have sprung up in recent years, including Lima Valley, Santiago Valley, Montevideo Valley, Palermo Valley (Buenos Aires), the "Brazilian Silicon Valley" (Campinas), Suma Valley (Guadalajara), Bogota Valley, and many others following the same pattern. In the region, governments are displaying different levels of involvement in strengthening these communities, which is in turn also exerting pressure on the Peruvian government to come up with its own proposal to avoid being left behind.

To provide some perspective, we can briefly consider some of the government

initiatives taking place in the context of the Pacific Alliance[7] to promote technology industries (and the game industry specifically as well), as they're being implemented in those contexts that are perhaps most similar to the Peruvian one — especially if we look at what's happening in neighbouring countries such as Chile and Colombia. As with many other things in Peruvian society, Chile often becomes an obligatory point of comparison and, not infrequently, competition. The comparatively healthier and more mature Chilean financial industry (Romaní *et al.* , 2013) has helped drive stronger investments in technology-related industries, as well as helped catapult many local firms to international deals and investments: as a clear example, two of its strongest game development studios have already been acquired by larger foreign firms (Frasca, 2012). Chilean companies have been highly effective at organising themselves and negotiating support and incentives from their government, and games have not been the exception, with the Chilean agency for export promotion, ProChile, funding and helping in the organisation of a national delegation to attend the Game Developer Conference since 2012[8].

Chile's policies regarding the promotion of technology and innovation intend to be far-reaching. Chilean President Sebastián Piñera declared 2013 as the "Year of Innovation", when policies and efforts around the issue would better come together (Gobierno de Chile, 2013). It is a large scale effort to streamline the government's effort to invest in science, technology and innovation through its development financing branch, CORFO, and its science and technology council, CONICYT, as well as to improve resources available for people interested in pursuing advanced studies internationally. The most widely-known effort in this area is the Startup Chile program, which provides seed funding and networking resources for highly promising foreign

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[7]The Pacific Alliance is a trade association established in 2012 between Chile, Colombia, Mexico and Peru, with Costa Rica joining as well in 2013. It promotes economic integration by creating a framework for such initiatives as the integrated Latin American stock market encompassing Chile, Colombia, Peru, and soon Mexico, or simplifying procedures for citizens from any of the member states to legally work in the jurisdiction of any other (Perú 21, 2013a). The Pacific Alliance is also the free market alternative to the ALBA bloc promoted primarily by Venezuela, and is similar to MERCOSUR, an integration agreement primarily between countries in the southern cone of Latin America and Brazil.

[8]Chile was also the only other Latin American country, along with Peru, to have country representation within the show floor of the 2014 Game Developer Conference

ventures willing to relocate to Santiago for at least a year. These efforts are not universally celebrated: while Startup Chile is very well regarded internationally, the sentiment I got from various informal conversations with people close to the project or its participants was that the long-term impact from Startup Chile was very low, as entrepreneurs were not staying in Chile beyond their year-long required stay. It was described to me broadly as an initiative that was "coming out of the marketing budget" — that is, as something designed to improve the country's international perception, but not really expecting to generate returns in terms of investment or job creation. Regardless, the Startup Chile has been lauded internationally as a smart approach towards jump-starting a local entrepreneurial community by bringing in talent, connections and ideas, and similar programs are being replicated following the same model across the region — including Peru's own Start-Up Perú program.

In many of the conversations I've been having, Colombia was frequently mentioned as the fastest growing game industry in the region, and many people close to Colombian game studios pointed to the strong support they're receiving from the government as helping drive that growth. Most of this support is coming from the Colombian Ministry of Information and Communication Technologies, the entity responsible for coordinating and managing the *Vive Digital* plan, a cross-sector, four-year push to increase Internet adoption and promote the creation of technology-based ventures across the country. One of the main initiatives associated to the *Vive Digital* plan is Apps.co, a roving technology development effort designed to support people in coming up with ideas and projects around new technologies, offering different resources and levels of support based on how mature the idea is and what skills the potential entrepreneur has. Apps.co offers a series of online and in person bootcamps to teach technology skills; ideation workshops to apply those skills into potential project ideas; and then counselling, mentoring and acceleration services for projects that are further along in their development process. (Apps.co, 2013)

Games are also coming under the sphere of influence of the Ministry of Information and Communication Technologies in Colombia, specifically under its Digital Contents area, responsible for "strengthening industry sectors that generate knowl-
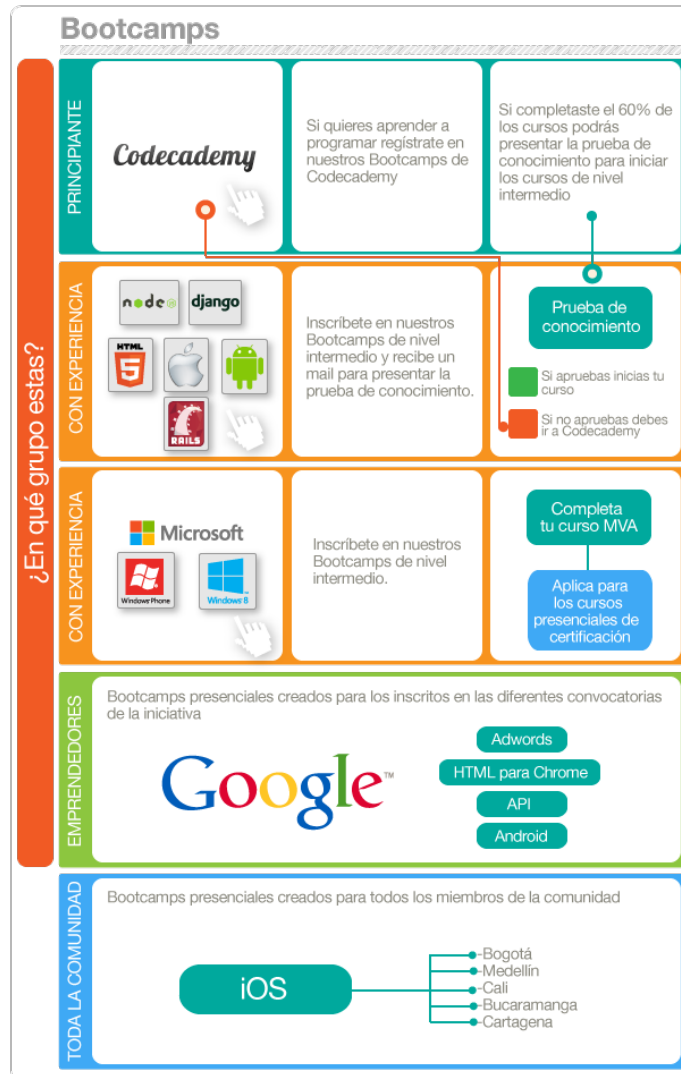
Figure 6-2: Apps.co's technology bootcamps offer different alternatives to acquiring skills based on level of expertise. Image source: Apps.co.

edge and develop new ways of thinking about digital aspects through technology" (MinTIC, 2013a, translation mine). Through a partnership with the Colombian Ministry of Culture they've launched *Crea Digital*, a competition to promote the creation of digital contents and technology appropriation, in which video games have their own award category (with the two other categories being electronic books and interactive media). (MinTIC, 2013b) Additionally, the Ministry has also set up a different partnership with ProExport Colombia — Colombia's export promotion agency — to support the promotion of Colombian game developers at international venues, such as

Country	Number of studios	Population (in millions)	Studios per million population
Argentina	75	41.09	1.83
Brazil	113	198.7	0.57
Chile	30	17.46	1.72
Colombia	62	47.7	1.30
Mexico	93	120.8	0.77
Peru	15	29.99	0.50
Uruguay	12	3.395	3.54

Table 6.1: Number of game studios relative to population size in Latin America. Source: Luna (2014).

the Game Development Conference (GDC) in San Francisco. (Galeano, 2013) In 2013, five Colombian studios travelled to GDC with ProExport Colombia assuming 50% of the costs and assisting them in setting up business meetings and deal negotiations with international clients. (ProExport Colombia, 2013)

The Chilean and Colombian examples illustrate how governments in the Latin American region are becoming involved with technology promotion and supporting new industries by providing access to resources such as skill building, international exposure, or networking. Yet Chile and Colombia have also acknowledged the video game industry as a component of their digital efforts. Peru has been slower to catch up. The Peruvian government is trying to reconcile these two narratives about its technological future: the imported version of startup culture tied to entrepreneurship and technology innovation; and the unexpected, unlikely, and loosely organised construction that is the local game industry, with its own needs and wants. While they fit together in many ways, they also conflict and clash in many others.

What, exactly, is missing from the game industry for it to be a part of the vision of future Peru? While the answer encompasses many things, it can be adequately summarised as "export quality" — a form of international trade pixie dust that's hard to define, but you just know it when you see it.

6.4 "Export Quality"

As we've explored earlier, studios in the Peruvian game industry operate under a range of different business models — even one same studio can have multiple projects pushed

out to the market under different strategies. This can complicate discussions with the government, as it isn't entirely clear how the industry operates, what its needs are, and how it can be supported. From the point of view of export promotion, games don't easily map into any existing categories: they don't really sell as manufactures goods, but they also don't exactly sell strictly as software licenses either. But game studios still are under the constant need to find new clients — either people who will contract work from them as a work-for-hire engagement, or someone who's interested in purchasing one of their games either during or after development. As the local market is still small and potential clients are not fully knowledgeable as to why they would pursue games (for example, in the advertising industry), game studios are much more interested in exploring opportunities abroad.

Getting to those opportunities, however, is a lengthy, costly, and somewhat obscure process. It's not necessarily or automatically true that the pervasiveness of the Internet has made it any simpler or easier to navigate, other than the fact that you can search the web and find a lot of information about it. Yet even armed with all that information, a significant share of the process remains a black box for people outside of international trade, and many obscurities — legal frameworks, taxation policies, exemptions, tariffs, banking procedures, and so on — can be the determining factor in whether a deal succeeds or falls through in the process. Government export promotion agencies, such as PromPerú, ProChile or ProExport Colombia, work towards streamlining the process as much as possible and assisting would-be exporters in getting their products showcased to the international markets, frequently concentrating their efforts on sectors that are considered to be strategic for some reason.

Games have not been a traditional component of their portfolio, as we saw above — at least not in Peru. Shortly after a regular business day was over, I met with Manuel, who is fairly close to the foreign trade industry, and well acquainted with how software and game exports work in the Peruvian context, to better understand why. We met at a nice café near Lima's financial district, in the upscale neighbourhood of San Isidro, and he walked me through how the process for exporting works in traditional industries, and how it's different for sectors such as software and games.

There's a recurring theme that shows up when thinking about software and games — thought of indistinctly as either products or services — and international clients and markets: that of "export quality", how Peru doesn't yet have it, and how that becomes a significant obstacle for the government to get involved. Considering a product or service as having export quality translates into two things: first, it becomes an assurance for the government that the transaction bears a smaller risk that the producer might fail to deliver on commitments. Because government agencies such as PromPerú are basically mediators for the symbolic capital associated with the country as a whole — in other words, because they're basically *brand managers* — they need to be especially careful about who they're vouching for. Second, the label becomes an indicator that the product will be able to attract higher yields because of added value on the production side. Industries that generate higher returns on investment are promoted much more actively by export promotion agencies[9].

The export quality label is a tricky one, however, as it is not clearly defined anywhere, and assessments of quality are necessarily different based on the industry, product, or service. A 2013 International Monetary Fund working paper on measuring export quality in developing economies states that "export quality cannot be directly observed and needs to be estimated. Only unit values (that is, average trade prices for each product category) are observable" (Henn *et al.*, 2013, p. 4) — in other words, if two countries are successfully exporting the same good, the country that is able to command the higher price can reasonably be assumed to be providing a higher quality product. But while this metric works reasonably well for products that are roughly equivalent, it is not so clearly applicable for something as games, where the same game, when sold to a client, will probably not be sold to more than one client (under a work-for-hire model), and games are hard to compare to each other in terms of quality.

From what I'm hearing in conversation, however, there's also more to export qual-

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[9]It is worth noting that export quality bears little connection to the value of the product in itself. As the examples in chapter four show, a product's capacity to do well in international markets is not necessarily connected to its authenticity or cultural significance, but rather by its perceived appeal and capacity to scale fast enough to reach international customers.

ity than just end market value. The export quality label applies as much to process as it does to product, even more so when dealing with a production engagement that's likely to take several months, or when providing a service. Export quality for games, therefore, cannot be directly measured in terms of market value; but being labelled as having export quality *does* translate into being able to charge rates above what the local market is paying — both because of the added layer of confidence in the transaction, but also because, as Manuel explains to me, managing the process implies paying for a much higher overhead (in situations where there are no taxation agreements between two countries, a provider might be taxed twice on the profits from a transaction — both on the sending and the receiving end — and can end up paying as much as 60% in profit taxes).

What, then, does being of export quality look like in the game industry? As we talk it over, Manuel is able to narrow it down for me to four factors:

1. A studio that has roughly been around between three and four years. This provides a guarantee of continuity and stability: the risk of partners coming to a disagreement and shutting down the operation is much lower.

2. A studio that has been able to publish roughly between three and four games on their own, and perhaps twice as much if it's been contract work. Having a large portfolio allows a studio to show clients a range of experiences and design concepts, including if, when, and how a studio is applying novel trends and innovating in their developments.

3. Knowing who's on the team and where they're working. Do team members have a solid track record? What are their working practices? Do they have an office? What is their legal relationship to the studio? These are all necessary assurances an international client will be looking for when investing in a company abroad.

4. What the funding situation looks like. Past their fourth year of operation, a studio should've broken even already and should be making some profit, and be aware of who their audience is and what sort of games they're good at making.

These are not, by any means, formal requirements nor unbreakable laws — merely a heuristic to narrow down what the export quality label encompasses. These are, furthermore, quite contestable: a game studio with a smaller number of finished games but able to put together a compelling technology demo, for example, will also have something interesting to show to clients. A distributed team working across many locations might be able to forgo having actual physical facilities if they have consistent quality production and their team has a solid track record. And so on — but it does serve as both an indicator of what international clients are looking for when considering game studios based outside their home country, and a checklist for areas where existing game studios can strengthen their operation in order to make themselves more appealing to the international market (if, of course, they've chosen to work with clients or publishers rather than publishing their games directly to the final consumer).

That job, however, escapes the sphere of influence and interest of export promotion agencies alone: "it is not PromPerú's job to generate supply. PromPerú takes existing offers and pushes them outside." Strengthening and expanding supply is something that requires more of a concerted effort between not only multiple areas of government, but also multiple partners in industry. Colombia, by aggregating sector policies through its Ministry of Information and Communication Technologies, is able to bring together multiple stakeholders strategically and craft alliances that promote supply (by partnering with the Colombian Ministry of Culture) and demand (by partnering with ProExport Colombia). No such arrangement exists on the Peruvian side, where many similar conversations are happening at the same time without them ever overlapping. Manuel tells me: "The Ministry of Production should work with FINCYT, CONCYTEC[10], and PromPerú, all of them together — if these three would start pushing out supply, supply, supply, then PromPerú can take that and push it abroad."

The problem is it can take several years to get there, and Peru's already lagging

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[10] *Consejo Nacional de Ciencia y Tecnología* (National Science and Technology Council). The main government agency supporting science and technology research and development in the academic sector through research grants, advanced degree scholarships, etc.

several years behind. Even more so, the process to get those several years' worth of experience is, again, costly and complicated, and not many teams are in a financial position to withstand that, or have the business savvy to pull together a working business model in the first few months of operation, while there's still funding available. This has led most international efforts and deals to be crafted in one-to-one transactions, pursuing leads people find while at conferences such as GDC o Game-Connection, or regional events such as the ADVA in Buenos Aires or SBGames in Sao Paulo. A number of brands and content providers for established entertainment companies — such as Disney, Nickelodeon, or Cartoon Network, just to name a few — are actively on the lookout for new developers to work with to produce content for their games, and local studios can engage them relatively easily and get conversations started. But few studios are at the point right now where they can engage in the large-scale export operations PromPerú would like to see happening.

6.5   Gaming the Entrepreneurial Republic

It has not been my attempt in providing this exploration of the role of government in articulating technology, entrepreneurship and innovation ecosystems, to push forward the claim that it is the government's influence in these ecosystems that will on its own solve the structural challenges and bring about sustainability and growth. Far from it — my intention has been to provide a multi-layered perspective as to how the connection between the game industry and government is shaped by a variety of overlapping factors: industry trends, financial shifts, geopolitical interests, legislative frameworks, administrative procedures, and so on. The Peruvian gaming industry has many challenges, and they cannot be all traced back to a single overarching factor. But in this context, the government does play a very important double role, as it is in a position to be the prime drive enabling growth in certain area through its action, as it can also contribute significantly in others by stepping aside and allowing studios and industry groups the space they need to interact and grow.

But through this examination, I've especially wanted to illustrate how the game

industry has been able to unexpectedly and unintentionally craft their own singular relationship with government, power, and public policy. Because of the many layers that make up the game industry, studios and developers have a lot of latitude available to them to position themselves in engaging government. And this latitude is creating a richer and more diverse collaboration for this specific creative industries than the one others have been able to craft. This by no means implies that the government is somehow favouring the game industry above other sectors, or that the game industry is finding a response to all or even most of their expectations from the government. It does point to internal forms of organisation that have been better able to channel demands and needs, and especially, to provide government agencies with the assurances and the confidence that the industry is capable of delivering on its commitments on multiple fronts. Just as we've seen risk being a driving factor for developers engaging industry, and for studios engaging clients, so is risk an important factor for the industry engaging the government to address many of its structural gaps.

Despite the game industry's success so far in circumventing obstacles, figuring out solutions and implementing infrastructures on its own, it has grown to the point in its evolution where it needs to address its larger challenges if it is to continue to grow to its next level. Up until now, the problems game studios were facing had been solvable on an individual basis through some creative tinkering. But the larger problems affecting all game studios cannot be successfully tackled by any individual one: issues such as education, risk perception, stigma, or access to funding, for example, require a concerted effort to change. And in many cases, the solution also inevitably passes through some government office or agency intervening in the process. Successful engagement of government, then, stands as one of the main assets the industry as a whole needs to build.

Turning towards the government is neither the problem nor the solution. Perhaps on account of a better economic climate, or on account of international pressure, maybe the foundational architecture on which the game industry is built can begin to change, as it has timidly begun to do so already.