

# DIGITAL PLATFORM AND COMPLEMENTORS: AN EMPIRICAL ANALYSIS BASED ON YOUTUBE CONTENT CREATORS

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## ABSTRACT

*This paper looks at the YouTube platform and its ecosystem of content creators. The aim is threefold: (1) investigating how the relationship between a content creator and the surrounding ecosystem of services evolves as the content creator grows on the platform; (2) understanding how policies and control from YouTube affect content creators; (3) unveiling strategies that content creators follow to escape platform's control and generate extra profits. We use interpretative research and gain evidence from multiple content creators.*

**Keywords:** Platform, Complementors, Multi-homing, Direct monetization.

## 1. INTRODUCTION AND THEORETICAL BACKGROUND

Within the past 15 years, platforms have increasingly dominated markets (Santaló, 2015). At their core, platforms bring together two or more group of users and facilitate transactions among them. Academics started investigating these companies addressing many relevant topics such as which characteristics a solution should have to become a platform (Santaló, 2015), which strategies platform owners can use to launch their platform (Bhargava et al., 2013), infrastructure / network requirements (Constantinides et al., 2018), governance (Förderer et al., 2019), etc.

Despite the growing interest of the scientific community, all these topics have been predominantly researched from the perspective of the platform owner (Cennamo et al., 2016). The whole discussion revolves around what this actor should do to manage its network and generate profits (Kim et al., 2017). Almost nothing is known concerning what the other actors around the platform, often called complementors (Förderer et al., 2018), can do to reap benefits for themselves.

There is a strong interplay between the governance policies adopted by the keystone firm, to what extent freedom is left to the rest of the ecosystem, and ultimately which strategies they can adopt to escape the platform owner's control. To explore these topics, this paper looks at YouTube platform. The aim of this paper is threefold:

1. Investigating how the relationship between a content creator and the surrounding ecosystem of services changes as she grows on the platform;
2. Understanding how policies and control from YouTube affect creators;
3. Synthetizing what has been found into proper strategies that creators follow to escape the platform's control and generate extra profits.

Our results contribute to shed light on the concept of “platform leadership”, explored from the perspective of a complementor (Adner, 2017), and how platform governance drives the actions of complementors (Förderer et al., 2018).

## 2. METHODS

This paper uses interpretative research through multiple case studies (Eisenhardt, 2007). Starting from the research questions, content creators are used as the main unit of analysis. However, given the importance of finding meaningful case studies (Yin, 2003), three criteria have been applied to find creators with valuable insights:

- No corporations: given the purposes of this paper, the ideal target for the sample is people for understanding their journey and relationship with the platform;
- Big enough creators: although without a clear definition, effort has been put to find creators with sizeable communities and viewership;
- 3) Only English-speaking creators: this constraint was necessary given the necessity to communicate and interact with the other party.

To find the sample of content creators, theoretical sampling was used. Selected cases are chosen because they are unusually revelatory, extreme examples and reveal precious insights. Over 350 creators were contacted leading to 14 interviews. The list is presented in Table 1.

**Table 1.** Content creators interviewed and their main statistics

<b>Content creator</b>	<b>Typology</b>	<b>Total views</b>	<b>Total subscribers</b>
Bijuu Mike	Videogames	405,533,663	1,651,915
Casually Explained	Informative	150,804,764	1,914,068
General Sam	Videogames	122,831,401	563,273
Guru Larry	Videogames	57,010,103	333,902
minutephysics	Informative	383,814,819	4,500,673
NativLang	Informative	33,994,654	499,129
Practical Engineering	Informative	33,187,705	737,569
Ramsey	Videogames	20,732,085	253,341
Slazo	Videogames	73,362,569	633,465
Super Eyepatch Wolf	Informative	37,770,456	532,934
The Closer Look	Informative	13,368,549	313,074
Tale Foundry	Informative	4,647,668	147,077
The Russian Badger	Videogames	372,520,270	1,803,132
The Armchair Historian	Informative	12,583,441	190,671

Data was collected by interviewing the content creators and by using additional secondary sources such as: emails between creators and YouTube, videos and statements on social media platforms. The interviews were conducted using a semi-structured protocol (Flick, 2009). Interviews were conducted over Skype, with the average interview being 40 minutes long.

To interpret the empirical data from interviews, grounded theory coding was applied through the software Nvivo. The data was analysed through axial coding. Initial codes were created a priori from the main themes identified through preliminary research and study of secondary material. Then, each interview was scanned for passages pertaining to certain codes and to generate new ones. Interviews were then complemented through secondary sources to generate a unified case perspective. Through an iterative process, going back and forth between the different cases, codes were either merged together or deleted. To develop a cross-case analysis, a hierarchical structure between the remaining codes was created.

### 3. FINDINGS

From the interviews, three specific moments in the lifecycle of a creator emerged: the “Starting Point”, going “Full-Time” and achieving “Independence”.

#### 3.1 STARTING POINT

##### 3.1.1 MOTIVATION

The main idea under the “Motivation” theme is that content creators “Just Start” on the platform: *“I bought a computer, like a laptop. It was only like \$300 and I just started making videos and that's how I got into it really” (Bijuu Mike)*

This “I just started” mentality, is enabled by two set of factors: external and internal. External factors are related to the availability of cheap equipment, as well as the fact that they often do not have other constraints (e.g., no job). Internal motivation, instead, connects to both positive and negative feelings. Negative feelings stem from a sense of dissatisfaction with their current life.

##### 3.1.2 OPPORTUNITY

The main theme under the opportunity topic is that content creators who are successful in this moment experience growth in their Ad Revenue. However, that is the result of a process that starts from an initial failure. The first videos are generally random and often do not really have an audience. Analytics are also not part of the equation and do not affect content creation.

This attitude leads to failure. However, content creators still try to promote their content. There is usually a good component of luck in getting views, to the point where one creator was not even sure if he would be able to replicate his success: *“I drew things in MS paint and that one [video] got right to the front page of Reddit, [...] got me up to maybe 20,000 subscribers.” (Casually Explained)*

This combination of luck and self-promotion leads to the explosion of one video: *“Occasionally, when they're [videos] popular enough on Reddit, they blow up even on YouTube. So I'd say it's these occasional really big hitting videos that got me most of the traffic”. (Casually Explained)*

This success leads people to replicate it while also improving the quality of the videos to higher standards: *“I basically made a whole bunch of very mediocre content, until I started adding little elements that made it more highly edited, a little bit more polished and then I continued to do that. I banged my head against a wall until my content became really good and differentiated from everybody else [...] I think that's what has led to the success so far.” (The Russian Badger)*

This process is what over time leads to Ad Revenue growth. However, there are also some traps that should be avoided along the journey. Specifically, many Multi Channel Networks try to recruit smaller creators with empty promises. A Multi-Channel Network is an organization that offers cross promotion possibilities and sponsorship deals to channels under their network. In exchange, they take a fee on the Ad Revenue generated. At this level though, the business model of these networks is to recruit as many content creators as possible and make money off of them without really promoting growth.

The lock-in effect can be extremely detrimental if someone, as a content creator, does happen to grow: *“There's a lot of predatory activities going on in this industry. Some creators literally had to start an entire new channel just to get out of bad networks that would keep their channels hostage.” (The Russian Badger)*

### 3.1.3 YOUTUBE POLICY

Policies at this level promote an easy access to the platform. The platform is free of charge and some creators started on YouTube just because of its hosting capabilities.

Initially, there is also no restriction on the type of content that can be uploaded: *“I don't curse, but sometimes a game that I will play will have curse words in it. That stuff was okay, like you know, they were cool with it, like you never got a complaint or anything like that.”* (Bijuu Mike)

YouTube also tries to help creators growing through their YouTube Academy program or YouTube Spaces: *“YouTube provides both classes and instruction as well as actual creator creative spaces, including recording studios to creators who live in major urban markets. They have these YouTube spaces in Los Angeles, New York, Tokyo a few other cities”.* (NativLang)

## 3.2 FULL-TIME

### 3.2.1 MOTIVATION

At this stage, there are three main elements that dictate the actions of a content creator: a business attitude, maintaining moral integrity, and feelings of uncertainty. Since creators have moved to a full-time job and consider YouTube their career, the approach to the platform is much more business oriented. Analytics start to play a bigger role and Trends dictate the topics of new videos.

Content is often adapted to be aligned with YouTube's policies and some creators also start to structure their business a little by hiring some collaborators: *“Most of the time I censor swear words and things like that.”* (Ramsey); *“I have a couple of people that I pay to edit my videos.”* (Super Eyepatch Wolf)

Increasing the content quality remains one of the key aspects, defined by a creator as “the backbone” of its activities. Overall, compared to the previous moment where creators just tried their best, this is when a more explicit strategy is followed.

Morality is another big driver of actions. At this stage, creators often perceive contrast between what they are supposed to do to earn income, what their creativity would tell them to do, and what the audience wants. Earning income at this stage is fundamental to stay afloat and survive and creators often need to choose between what pays and what feels right.

Finally, as the last component, feelings of uncertainty drive a lot of their decisions. What bugs most creators is that it is very difficult to interpret the platform: *“I've never felt like I've been in big trouble. But it does cause me a lot of stress sometimes, especially if you see your channel doing worse even if you're doing kind of the same things.”* (Bijuu Mike)

At this stage, most creators feel extremely confined in YouTube and perceive the platform as a monopoly: *“If you want an answer as to why YouTube doesn't treat people very well, it's because it has a monopoly on video sharing. There is no competitor to YouTube and I don't think there ever will be.”* (The Closer Look)

### 3.2.2 OPPORTUNITY

In terms of opportunities, the overarching theme is that creators are actively looking for new businesses. First of all, going full-time allows for growth simply because they invest more time and effort into their channel: *“I got so much more growth doing full-time you know, videos every single day, it was totally a game-changer.”* (Bijuu Mike)

This full-time growth, often allows creators to compensate losses from demonetization or other policy issues, because they are growing at rate higher than the decline of revenues: *“I mean just the amount of money you get per view is not what it was before. Thankfully I'm growing faster than the amount is declining per view.” (General Sam)*

Because of this effect, sustained growth is still considered an important business element, although in this phase creators try stabilize their income through other sources. There are two main avenues to do so: exploit connections with other YouTubers and find alternative ways to monetize people’s attention. Networks are also a good way to take advantage of collective power. Usually they deal with sponsorships as middle man, negotiating deals for the whole group. They also provide assistance on more technical stuff like creating thumbnails, managing contacts and emails or taxes. There is a personal connection between a single YouTuber and a manager in a premium network. In exchange, they get between 5% or 10% of the Ad Revenues. For most YouTubers it saves time and allows them to take advantage of services that they could not afford to have on their own.

When it comes to monetizing people’s attention, the key idea is that there is value in people watching your content regardless of the Ad Revenue.

The overall objective is to rely less and less from YouTube, leading to independence. There are many alternatives that creators can adopt to build their ecosystem. Merchandise is a big one. The most used company is Teespring. They have a very streamlined process by which a creator simply provides them with a design and then everything is handled by them. A viewer who wants to buy a T-shirt from a creator, would go on Teespring and the website would manage the payment, manufacturing and shipping of the product. The relationship works pretty well because creators can focus on their core business, making videos, without the need to manage other stuff. They can promote the merchandise through their videos and often the designs themselves are provided by the community itself through fan art or recurring memes. Other creators instead, rely on drop shipping for merchandise, but it is more complex and less diffused. The main advantage is that it provides higher cuts compared to Teespring. Patreon is another widely spread service that allow viewers to directly donate money to creators they support. They have a low commission fee, 5%, and it is the company’s mission to minimize transaction fees to give as much as possible back to creators.

### 3.2.3 YOUTUBE POLICY

The main theme around YouTube’s policies is that content creators do not really know how to behave on the platform and often discuss together to understand what should be done: *“We often discuss things like: “Hey this keyword is not good, don't put this keyword in your video” you know, things like that. We just basically have to gather information that we just see and share it with each other.” (Bijuu Mike)*

This speculative environment is the result of two main issues: it is difficult to speak with YouTube and policy issues directly affect the bottom line of creators. One of the interviewees reported: *“I would like to speak to an actual human about these problems, because what it feels like, you know, is that they just don't care.” (Slazo)*

The general perspective from a content creator’s point of view is that YouTube behaves “as a machine”. They are very methodical, they apply their algorithms, and most of the decisions are taken by machines before being checked by humans if something goes wrong.

As creators grow on the platform, they get access to preferential lines of communication and often a YouTube representative is appointed as a contact. However, most creators do not take advantage of this opportunity as it does not provide “value”.

There is also a sense of perceived frustration since not only it is difficult to talk about issues, but it is also complicated to make suggestions to the company itself. Policies hurt the bottom line by both limiting growth and revenues. It all starts from videos not being considered suitable for advertisement. The biggest problems are that:

- There is no transparency in how changes are applied to the platform;
- Changes happen very frequently and requires constant adaptations efforts;
- Whenever a video is demonetized, the creator is greeted with a very generic explanation of what happened; details are very vague and there is no pin-point explanation of what is wrong with the video; this creates an environment where creators don't even understand how to correct their mistakes.

Another main concern is that a lot of these issues seem to stem from technological issues, where algorithms incorrectly detect videos as “non-suitable”, even if they are not. YouTubers can ask for a manual verification, but it takes up to 48hrs. Given the extreme importance of the first few hours for a video, since this is when they rack up most of their views, it means that even if the mistake gets corrected, most of the revenue is effectively lost. Overall, policies in this moment of the lifecycle tend to be very negative towards the creator and confine them to behave in way that are aligned with YouTube's overarching strategy.

### **3.3 INDEPENDENCE**

#### **3.3.1 MOTIVATION**

At this stage, creators start to enjoy their lifestyle and what they are doing. The pressure from the previous moment is largely relieved, which is in contrast with the sacrifices they previously did to stay afloat: *“To me, being a YouTuber is one of the best jobs on planet because of the lifestyle, you can get a lot of money by doing things that you love without too much pressure as a normal job.” (Casually Explained)*

They also have outgrown the platform; they are something much bigger than YouTube. Because of that, it can feel as a new chapter in their life, with new possibilities open to them. One of the main topics, in terms of what drives decision making, is still diversification.

Usually, most of their activities are also much more focused. Previously they were testing new business possibilities and trying different opportunities. At this stage, they start to integrate in a more coherent way what they are doing.

There is also no particular brand allegiance to YouTube. It is still very important to them, especially to engage with the audience, but there is no loyalty to the platform itself.

Finally, at this stage, creators also go back to an “exploration” phase, trying to innovate their content a bit more: *“I think on YouTube you have to innovate at least to some degree. Otherwise you'll begin to get stale and then your audience will move on. So I'll tend to always have a flow videos that I know works, but I'll also every now and then branch into a new thing and see if it works or not.” (Slazo)*

#### **3.3.2 OPPORTUNITY**

The key element at this stage is that the YouTuber starts to be a small celebrity. They usually drive big numbers in terms of viewers and subscribers, which combined with their policy of diversification, allow them to take advantage of their audience in many ways.

They keep expanding on many social media platforms and the core set of skill they developed can allow them to take on other opportunities. Patreon is generally abandoned at this stage. Creators feel like it's not necessary to survive and they rather not feel the pressure that comes with having viewers that pay for content through donations. This also goes along with the idea that the scale and amount of money they receive is more than enough to absorb fluctuations in AdSense revenue.

At this stage a lot of variety can be found, and should be analysed case by case. Some creators write books, others have their own app or videogame. Other creators start to make content for more traditional media, like television or even a Netflix series. There is a lot of diversity in opportunities and depends a lot on the genre of videos that started the creator's career along with its relationship with the viewers.

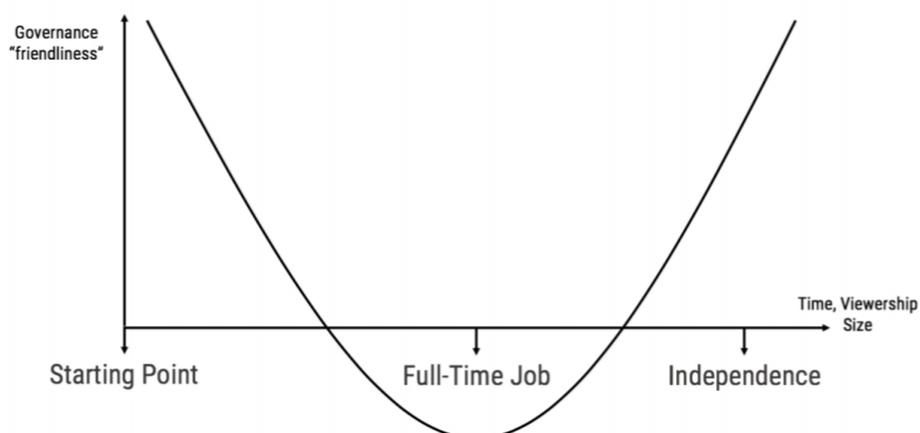
### 3.3.3 YOUTUBE POLICY

YouTube policies at this stage significant shift from the previous moment and are generally positive. One of the interviewees specifically mentioned a "Creators Preferred List", that bigger brands can directly choose from for their advertisement.

"YouTube Trending" is another policy introduced by YouTube to heavily promote popular videos. It is algorithm based and potentially anyone could have a video trending. However, the bigger you are, the more likely you are to get this promotion. This in turn will allow you to reach an even bigger audience that will make your next video more likely to get onto YouTube trending again. Also, changes in the algorithm tend to be perceived favourable. It is difficult to assess causality and why this happens, but a reasonable hypothesis is that creators that got really big today are the more aligned with YouTube's overall strategy. Thus, if the strategy does not change, any change to the algorithm will favour what they are doing as it also directly benefits YouTube. Overall, if you're big enough, YouTube caters to you and your audience.

## 4. DISCUSSION

From the interviews with the content creators, three main moments of their lifecycle have been identified: the "Starting point", "Full-Time Job" and "Independence". Within these three moments, the control exercised by the platform on its complementors varies, as showed in Figure 1.



**Figure 1.** Qualitative representation of governance friendliness as the content creators grows

Previous literature highlighted two main strategies that complementors can adopt to escape from the overarching control of platform owners: multi-homing and forking. If the empirical evidence collected through the cases confirm multi-homing as one key strategy for complementors (Cennamo et al., 2016) we have also found a new strategy that has not been previously highlighted into the literature: direct monetization. Within this section, at first multi-homing will be discussed in its relationship with the observed governance mechanisms. Then, direct monetization will be explored, providing an explanation of what it is and how it works.

#### 4.1.1 MULTI-HOMING

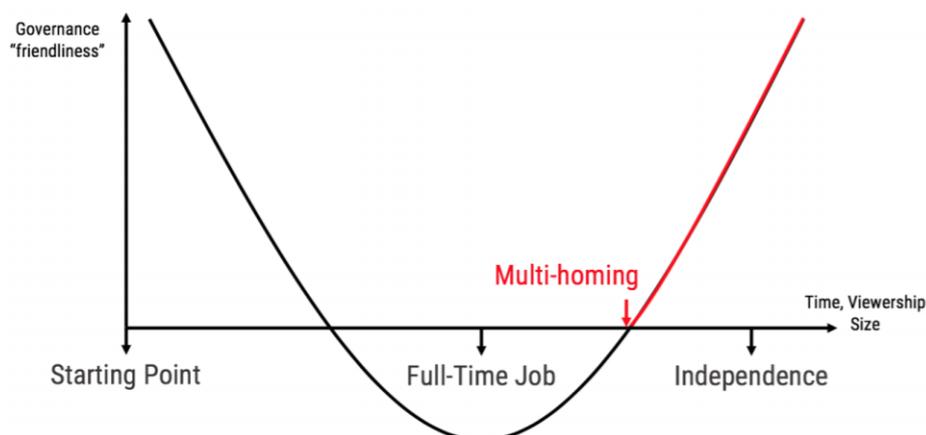
One of the key elements of the independence phase is that creators heavily differentiate their income sources by producing content not only for YouTube but also for other platforms. There are two major elements that make this strategy successful:

- The content requires little to no adaptation;
- They have enough power to drive the behaviour of their fan base.

Within the literature, one of the problems that complementors find when using multi-homing is that their product needs to be adapted for other platforms (Cennamo et al., 2016). In the context of our case study, however, the same video and content produced for YouTube can be promoted and uploaded elsewhere. There is no need to make further investments to adapt the complement.

The second element is that creators in the “Independence” phase reached a celebrity status. Their community of viewers behave as a fan base and takes actions if pushed by the celebrity they follow. This means that if a creator starts pushing its content to another platform, its viewers will move to that platform to watch it. Creators at this stage possess the power to move people outside the platform.

Because of this, multi-homing is a strong threat to YouTube platform owner. Multi-homing actively harms the growth / size of the network. Therefore, YouTube changes its governance policies to convince big creators to stay in the platform. Sometimes, it can also happen that the creators themselves are the ones forcing YouTube to make changes. This mechanism is aligned with the organizational perspective stream of governance found into the literature, as it shows how often policies are the result of negotiation (Förderer et al., 2018). This strategy can therefore explain the third part of the graph on policies as shown in Figure 2.



## Figure 2. Multi-homing strategy and governance friendliness

Since a prerequisite for multi-homing is the ability to drive the behaviour of the audience outside the platform, it is necessary to be big enough and to have built the fan base. Multi-homing is a strategy that is available only to “Big Enough” creators to reduce the control of YouTube. Within the interviews, it emerged that creators from the “Full-Time Job” phase and onwards are actively trying to mitigate YouTube’s control. It is within this phase that they start thinking about putting their content onto other platforms to reduce the risk of being in YouTube’s hands. This is generally the phase where they start small experiments to see if the content sticks on the new platform or not.

### 4.1.2 DIRECT MONETIZATION

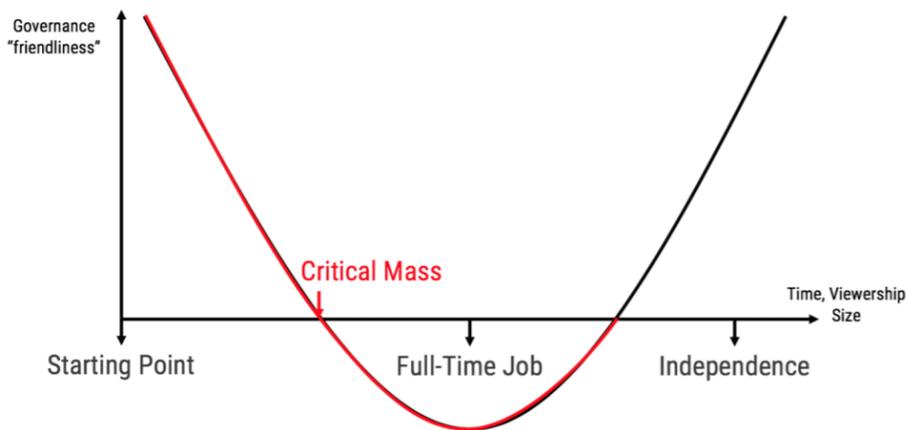
Direct monetization, as a strategy, means that one of the sides of the platform can directly make transactions with another one. It is the case of creators selling directly merchandise to their viewers or brands contacting directly YouTubers for sponsored videos. In these deals, YouTube is not directly involved and does not make a profit out of them. Complementors are effectively cutting the middleman to enable the transaction.

This strategy has not been previously described in literature as a valuable path that complementors can follow. In fact, in other contexts this scenario eventually led to the death of the platform itself. YouTube, however, is not dying. The platform experienced tremendous growth in the past years. Its network did not shrink as a consequence of direct monetization. In this scenario, there is an equilibrium.

While multi-homing was a hostile strategy towards YouTube, we argue that direct monetization provides benefits to both the ecosystem and the platform owner. To explore these benefits and understand the overall mechanisms going on in this strategy, both the perspectives of the platform owner and the content creator are considered. We argue that there are two characteristics that enable this equilibrium and generate advantages for all parties involved.

First of all, repeated transactions between the complementors still require YouTube. In YouTube’s case, even sponsored deals between creators and brands require the platform. In fact, YouTube provides hosting for the sponsored video itself and propagates it to the audience of the creator. Even if YouTube is not directly involved into the transaction, its technology is still necessary to enable the deal between its complementors. From this perspective, YouTube is at a net loss. Not only it is not a part of the transaction, but it also sustains costs to enable it. The complementors act as parasites by taking advantage of the resources provided by the platform without giving back to it, in a similar way to the forking strategy found in literature (Karhu et al., 2018).

If that is the case, however, why YouTube does not try to prevent this type of interactions? We argue, as a second key element for equilibrium, that the possibility for one side to directly monetize the other reduces YouTube’s subsidization costs. On the one hand, complementors will keep using the platform for their deals thanks to its technology, which enables the transaction. On the other hand, the platform owner permits complementors to adopt this strategy, as it allows to reduce subsidization. The keystone firm can enact better control over the platform, strongly aligning the complementors’ goals to that of the company. Complementors will still be attracted to the platform, despite the unfavourable governance, by the possibility of making direct business with one of the sides. Therefore, there is no need for the keystone firm to subsidize their presence. This mechanism, thus, provides an explanation to the first two parts of the “Governance Friendliness” graph as shown in Figure 3.



**Figure 3.** Direct monetization strategy and governance friendliness

This strategy provides benefits to both complementors and platform owner. As a complementor, the main benefit reported from this strategy is income stability. Content creators rely less on YouTube for their survival and rather engage with their viewers or brands. Eventually, as they keep growing, they can escape YouTube’s excessive control, threaten to multi-home and gain back power. As the platform owner instead, the profit versus growth dilemma can be solved (Bhargava et al., 2013). Uncertainty on whether platform owners can secure complementors participation, or not, leads to heavy subsidization that cuts into the company’s profit. It is difficult to understand the right level of subsidization necessary to foster growth. In this scenario, however, YouTube can experience growth at marginally zero cost.

## 5. FUTURE RESEARCH

Future research avenues are outlined in Table 3, highlighting what is missing, why is it relevant, and some potential research questions.

**Table 3.** Possible future research paths, their relevance, and potential research questions

<b>Future research avenue</b>	<b>Relevance</b>	<b>Potential research questions</b>
Integrating the perspective of complementors on “Direct Monetization” with that of the platform owner.	Understanding if “Direct Monetization” can be used as a strategic lever for platform owners.	Does “Direct Monetization” truly emerge as a response to policies? Can a platform owner design aggressive policies to increase profits while incentivizing “Direct Monetization” to avoid damaging its network?
Comparing the platform with others presenting a similar structure.	Understanding in which contexts “Direct Monetization” can be used and where it doesn’t work.	Which are the key elements that make “Direct Monetization” sustainable in a platform? Which characteristics should a platform possess to successfully deploy this strategy?
Understanding the perspective of complementors that failed on the platform and why	Highlighting the differences between successful and unsuccessful complementors.  Identifying key success factors of the multi-homing strategy.	Which core skills / abilities should a complementor develop to successfully multi-home? Which are traps undermining the ability of a complementor to multi-home?
Understanding how “Direct Monetization” affects pricing in platforms.	Understanding from an economic perspective what makes “Direct Monetization” successful. Investigating the interplay between platform structure and “Direct Monetization.”	Does “Direct Monetization” emerge as a viable strategy from the pricing and platform structure?
Understanding how to correctly classify / model YouTube and similar platforms.	Understanding which principles from the literature on platforms can be applied to these types of platforms or not	What makes YouTube and similarly structured platforms different from the others?

### SELECTED REFERENCES

- Santaló, J. (2015). How to Avoid Platform Traps How to Avoid Platform Traps. MIT Sloan Management Review, 57(1).
- Bhargava, H. K., Kim, B. C., & Sun, D. (2013). Commercialization of platform technologies: Launch timing and versioning strategy. *Production and Operations Management*, 22(6), 1374–1388.
- Constantinides, P., Henfridsson, O., & Parker, G. G. (2018). Introduction—Platforms and Infrastructures in the Digital Age. *Information Systems Research*, 29(2), 381–400.
- Förderer, J., Kude, T., Mithas, S., & Heinzl, A. (2019). Does Platform Owner’s Entry Crowd Out Innovation? Evidence from Google Photos. *Information Systems Research*, 29(2), 253-523.
- Gawer, A. (2014). Bridging differing perspectives on technological platforms: Toward an integrative framework. *Research Policy*, 43(7), 1239–1249.
- Cennamo, C., Ozalp, H., & Kretschmer, T. (2016). Platform Architecture and Quality Tradeoffs of Multihoming Complements. *Information Systems Research*, 7047, 1–18.
- Eisenhardt, K. M., & Graebner, M. E. (2007). Theory Building from Cases: Opportunities and Challenges. *Academy of Management Journal*, 50(1), 25–32.
- Adner, R. (2017). Ecosystem as Structure : An Actionable Construct for Strategy, *Journal of Management*, 43(1), 39–58.
- Gawer, A., & Cusumano, M. A. (2014). Industry platforms and ecosystem innovation. *Journal of Product Innovation Management*, 31(3), 417–433.
- Adam, J. (2000), *A Book on the History of Innovation*, Anyville: Nowhere Press.
- Doe, J. (2004), An Example of a Chapter in an Edited Volume, in: Reviewer, A.B.C. (ed.), *A Book on Continuous Innovation, Anywhere: Outback Press*, pp. 19-37.

- Johnson, A. and Petersen, Z. (1998), A conference paper included in conference proceedings, in: Host, Q. and Co-Host, Y. (eds.), Proceedings of the 21st International CINet Conference on Continuous Innovation: Past, Present and Future, Somewhere Else, The Netherlands, September.
- Smith, A. (2003), A journal article on creative management, Creativity and Innovation Management, Vol. 37, No. 2, pp. 81-91.