Creative Hubs as Assemblages

Understanding the Reciprocal Forms, Formalised Function and Territorialisation of Creative Hubs

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July 2019

Abstract

The co-location, internal processes and activities that creative hubs — defined here as co-located spaces where heterogeneous elements engage in various activities that support and develop startup companies — enable are widely recognised to be a core part of their value.

However, the interrelations of the heterogeneous elements that is a fundamental cause of these valuable configurations remains under-explored. This thesis thus presents a novel perspective on creative hubs as assemblages, centring on the question: how does the Assemblage of a creative hub define the interactions of its heterogeneous elements?

Methodologically, I conducted (i) a qualitative study of three creative hubs in the UK; (ii) an ethnographic study of a startup accelerator in Indonesia; and (iii) a mixed-method study of virtual hubs across the globe. My analytical devices, drawing from Gilles Deleuze and Félix Guattari's theory of Assemblage, are formalisation, reciprocal presupposition, formalised function and territorialisation.

In the first study, I framed six themes of the relational aspects of creative hubs as the conditions that organise bodies. In the second study, I showed how an accelerator assemblage —*"seed accelerator"* and *"seed funding"*— structures and legitimises the intensive interactions in the startup accelerators. In the third study, I showed how the idea of a *virtual hub* normalises the work-in-progress of digital incubation. Through these studies, I argue that the Assemblage of creative hubs works through a provisional, rather than an established, arrangement.

Ultimately, this thesis contributes an Assemblage-oriented understanding of creative hubs. In this understanding, I argue that the Assemblage of creative hubs in its multiplicity requires, organises and structures human-activity-infrastructure, terms-themes-expectations and other expressions so that creative hubs function to *provisionally support the provisional* in the creative industries. In turn, this understanding has implications of both setting a 'limit' for creative hubs' operations and providing a 'map' for understanding creative hubs.

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Acknowledgements

First of all, I would like to express my deep gratitude to my two supervisors Jenna Ng and Jonathan Hook for joining forces to help me finish this thesis. The guidance, encouragement and all-out effort that you have provided since our pre-study video call made this thesis possible. I cannot thank you enough for your countless suggestions and modifications since I began my studies.

I would like to thank all the participants who took part in the studies for this thesis. I would also like to thank the management of the hubs for granting access for my field studies.

Thank you to the Ministry of Research, Technology, and Higher Education of the Republic of Indonesia who funded my four-year PhD study via the BPPLN Scholarship Scheme. I would like to express my gratitude for the Santander International Connections Award and the SIGCHI Student Travel Grant, which funded my presentations at the CSCW and CHI conferences. I would also like to thank the Department of Theatre, Film, Television and Interactive Media for providing me with additional funding to present at the DIS conference.

Thank you to my colleagues in the TFTI (previously, TFTV) Department and the Berrick Saul Building. In particular, to those who shared a research office with me. Thank you for all the discussions and our social activities. I am similarly grateful for the continuous support from my colleagues at Petra Christian University, Indonesia.

Finally, for my family, thank you all for the encouragement and support. For my wife Amalia, we made it! Thanks for being you. For our children Jolive and Jorvin, thanks for bringing joy into our lives.

Declaration

I declare that this thesis is a presentation of original work and I am the sole author. This work has not previously been presented for an award at this, or any other, University. All sources are acknowledged as References.

York, July 2019

Jandy Edipson Luik

Publications Arising from this Thesis

The following publications are based wholly or in part on the research presented in this thesis:

Luik, Jandy, Jenna Ng, and Jonathan Hook. 2018. "'More than Just Space': Designing to Support Assemblage in Virtual Creative Hubs." In *Proceedings of the 2018 Designing Interactive Systems Conference (DIS 2018)*, 1269–81. ACM New York. doi:10.1145/3196709.3196758.

Luik, Jandy, Jenna Ng, and Jonathan Hook. 2019. "Virtual Hubs: Understanding Relational Aspects and Remediating Incubation." In *CHI Conference on Human Factors in Computing Systems Proceedings (CHI 2019)*. ACM New York. doi:10.1145/3290605.3300471.

Alongside these publications, I was invited or selected to present work at two workshops, a symposium and a preconference that is related to this thesis:

CSCW Workshop on *Spatial and Social Connectedness in Virtual and Mediated Work Environments*: *Where did my office go? Is it in the cloud?* In conjunction with the 19th ACM conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2016) February 27–March 2, 2016. San Francisco, US.

Investigating Regional Creative Clusters: A One-Day International Symposium. Organised by University of the West of England Bristol. Tuesday 6 March 2018. Watershed, Bristol, UK.

CHI Workshop on *Exploring the Intersection of Philosophy and HCI*: *Standing on the Shoulders of Giants* in conjunction with the ACM CHI Conference on Human Factors in Computing Systems (CHI 2019) May 4-9, 2019. Glasgow, Scotland, UK

ICA Preconference on *Crafting Theory: Methods of Theory Building in Communication* in conjunction with the 69th Annual Conference of International Communication Association (ICA Conference 2019) 24-28 May 2019. Washington DC, US.

CHAPTER 1

Introduction

1.1. Introduction

The growing contribution of creative industries to economies and societies worldwide motivates the studies in this thesis. Creative industries have their origins in individual creativity, skill and talent, and they have much potential for wealth and job creation through the generation and exploitation of intellectual property (DCMS 2016). Recent examples of these industries' growing contributions are, for example, that the Gross Value Added (GVA) of the creative industries in the United Kingdom (UK) increased by 8.9 per cent between 2013 and 2014 (DCMS 2016); similarly, the Gross Domestic Product (GDP) of Indonesia from the creative economy sectors increased by 4.38 per cent between 2014 and 2015 (Bekraf 2017). Furthermore, these two instances also demonstrate the growth of creative industries' contribution in terms of other indicators including employment — from 2.6 million to 2.8 million jobs in the UK (DCMS 2016) and 15.1 million to 15.9 million creative workers in Indonesia (Bekraf 2017) — and, eventually, strengthening the creative industries' sectors.

Historically, these contributions that creative industries have been making can be traced back to the aggregation of sectors into what is known as the "creative industries" by the Department of Culture, Media and Sport (DCMS) — now Department of Digital, Culture, Media and Sport — of the newly elected government led by Tony Blair in 1997. In particular, the inclusion of the Information and Communication Technology (ICT), software and computer services sectors, and the exclusion of sectors such as heritage and

tourism as creative industries by the DCMS have been subject to scrutiny by academics. According to Garnham (2005, p.26), "the term 'creative' [rather than 'cultural'] was chosen so that the whole of the computer software sector could be included. Only on this basis was it possible to make the claims about size and growth stand up". That is to say, "the question of its inclusion or exclusion bears heavily on wider claims made about the economic significance of the creative industries" (Flew 2012, p.13). Moreover, Flew (2012) argues that the exclusion of sectors above is a reflection of the modernisation drive of the Blair era; moreover, the exclusion of heritage and tourism sectors was taken with the awareness that the economic values of Britain's cultural institutions such as museums cannot be questioned. Consequently, this aggregation of ICT and software sectors under the umbrella of the knowledge-based economy, and subsequently formalised through the Creative Industries Mapping Documents by DCMS in 1998 and 2001, succeeded to raise the profile of these sectors economically and politically (Oakley 2004). Having considered this aggregation, I included a broader range of creative sectors in my analysis, primarily including technology companies.

These growing contributions of the creative industries mean that the development of infrastructures and superstructures that champion the creative industries is recognised as being of increasing importance. A key example of such structures is creative hubs, defined here as co-located spaces where various supporting elements/actors for the creative industries — such as talents or human elements, funding resources, policy makers, users or audiences, facilities and networking activities — engage in different kinds of activities that support and develop startup companies. Accordingly, creative hubs that focus on the work, production and consumption of products and services related to creative industries (Dovey et al. 2016) have emerged in the midst of these industries' growth to play a major role in championing it. Moreover, the political thrust of

championing creative industries, as I discussed above, had profound implications for the make-up of the creative hubs. An example is one of the initiatives in developing creative hubs that was proposed by London Development Agency (London Development Agency 2004) to achieve the vision and plan of Creative London. In other words, during the 2000s, the "New Labour's Creative Industries initiatives led to the growth of workspaces for culture and creative industries business" (Dovey et al. 2016, p.12).

However, supporting the creative industries via creative hubs is not only a matter of establishing such co-located spaces, but also a matter of arranging the complex array of tangible and intangible configurations that underpin their successful functioning. Therefore, to study the strengthening of the strategic role of creative hubs to be more than just co-located working spaces in the creative industries, this thesis examines different kinds of creative hubs, including their heterogeneous elements, to understand how the elements interrelate to provide support for the creative industries' actors.

At the same time, besides the ways of doing things associated with creative hubs, a new 'way of expressing things' also emerged. The use of emerging terms, such as "lean", "agile", "accelerator" and other expressions related to startup jargon, in the creative hubs is an example of the expression's adoption. Moreover, the presence of this new breed of expressions, imported from language used in Silicon Valley, have been taken for granted by the management and members of the hubs. Those expressions come like a 'package' with the new practice of strengthening the creative industries through creative hubs. Similarly, Mould (2018, p.9) notices that as the economic success of the creative industries in the UK grew, "countries all over the world began to replicate the rhetoric and use of language of creativity in their economic and political narratives". I am not implying that we cannot use those expressions, but we may need to think of how they

work and most importantly, what they entail. Aligned with my motivation above, this thesis aims to scrutinise these configurations in creative hubs.

This thesis thus offers a novel contribution to the field by way of providing an assemblage-oriented understanding of creative hubs. To achieve this, the thesis follows a two-fold examination:

(i) analysing the interrelations in creative hubs so as to understand them as more than just co-located spaces with processes and activities; and

(ii) analysing the structure of creative hubs through Gilles Deleuze and Félix Guattari's theory of Assemblage and the impact of that structure on the interactions of heterogeneous elements in creative hubs.

This thesis's contribution and approach is thus novel in two ways. Firstly, although previous work has shown that many different kinds of creative hubs exist and vary in their extent of co-location and support offered (Matheson and Easson 2015; Virani and Malem 2015; Dovey et al. 2016; European Creative Hubs Network 2016b), this thesis contributes to an understanding of creative hubs beyond its two actual aspects of co-location and processes/activities. Rather, this study explores a more fundamental *cause* of the co-location in a creative hub and processes/activities it contains. That is to say, the originality of this study is to propose to read the interrelations in the space of the *in-between* or in the plane of the *virtual*[1] where the *virtual* (italicised here to differentiate the use of this term from the collective phrase "virtual hubs", which is studied in detail in Chapter 6) is in opposition with the actual, and both are real (Deleuze and Guattari 1987).

Secondly, this study applies the concept of *Assemblage*[2] (Deleuze and Guattari 1987) to understand in an integrated way this *virtual* structure of creative hubs and its impact, leveraging on the argument that Assemblage is a "virtual entity with actual

effects" (Buchanan 2017). This study thus offers a different view of Assemblage from recent works such as the assemblage of friendship (Bucher 2013); big data as assemblage (Kitchin 2014); television assemblages (Rizzo 2015); selfie assemblages (Hess 2015) and online video distribution assemblages (Hondros 2016). Rather, this study views Assemblage as an entity *between-things*, or, a multiplicity that passes through things and keeps making connections between different things or bodies in a broader sense. As an analytical method, by considering its in-between-ness, I argue that Assemblage can explain the cause or condition of a particular state of affairs of things (which I then apply to understanding creative hubs). In view of these two aspects of novelty, this project thus relies on an integrated view of both the interplay in the *virtual* and the Assemblage-oriented interactions of heterogeneous elements in creative hubs in order to understand creative hubs.

1.2. Research Question

The research presented in this thesis is guided by its central question as below:

How does the *Assemblage* of a creative hub define the interactions of heterogeneous elements (e.g., human, non-human, material and immaterial) in providing support for its hub members (e.g., startup founders and co-founders)?

This research question requires three further elaborations. Firstly, I use the term *Assemblage* here to refer to the interplay of elements in the space of the *in-between*. The space of the in-between is a space or area for intensities or forces to operate (Deleuze and Guattari 1987); it can also be understood as a liminal space or a *virtual* space. It does not denote distance between things, but a space where conditions operate. In this thesis, I argue that it is the interplay in this space that gives actual effect to the configurations of the heterogeneous elements in the creative hubs.

Secondly, although the above-mentioned question is framed in terms of a "how" question, I also mean it to entail a fundamental "why" question (i.e., why do the heterogeneous elements of a creative hub co-locate to provide support for its hub members?). Assemblage itself as a concept refers to a *virtual* entity that works on a space of the in-between; just like a "rhizome" (Deleuze and Guattari 1987), it continuously keeps making connections. By explaining how an Assemblage works, this thesis focuses on an analytical framework as related to Assemblage consisting of ideas such as *form of content* and *form of expression* (expressed through conceptualisations such as *formalisation*, *reciprocal presupposition*, *formalised function*), *re/territorialisation* and *deterritorialisation* (Deleuze and Guattari 1987, 1986; Deleuze 1988; Massumi 2002; Buchanan 2015, 2017). While thinking about the virtual aspects of creative hubs with Assemblage, I do not distance myself with the actual configurations in creative hubs because, as I will argue in this thesis, such actual configurations/state of affairs do not just arbitrarily exist but occur under a specific condition (the "why" question). Eventually, answering that "why" question distils down to the same Assemblage-oriented understanding that answers the "how" question. Thus, both "why" and "how" emerge as converging questions that refer to Assemblage and the process of an Assemblage.

Finally, by asking 'how an Assemblage works in a specific situation (i.e., in a creative hub)', this study positions Assemblage and creative hubs as two different things which nevertheless exist in a single relation: on the one hand, an Assemblage is a '*thing'* that makes a thing function (i.e. a creative hub). On the other hand, a creative hub (one thing) is a material form of a co-located space, where its inhabitants gather and collaborate to increase their social capital; exchange knowledge and experiences; experiment; and nurture their nascent companies. I argue that what makes this collective in creative hub function the way it does is its Assemblage (Deleuze and Guattari 1987; Grosz 1994;

Massumi 2002; Buchanan 2017). Therefore, my central research question also breaks down into two interrelated 'examinations', which are:

(i) examination of the interrelations in the creative hubs; and

(ii) analysing the interrelations beyond just co-location and processes/activities.

1.3. Research Approach

This thesis aims to examine creative hubs through a series of field studies in different kinds of hubs and to analyse them through the lens of Deleuze and Guattari's (1987) concept of Assemblage. Rather than using a single-locus and literature-based study, which may not be able to capture the diversity of different actual practices of creative hubs and the variety of emerging themes/patterns of interactions within them, this thesis takes a field study approach across different kinds of creative hubs. Table 1 below summarises my field study methodologies in this thesis:

Table 1. Research Approach

Field Study	**Methods of Data Collection**	**Settings of Creative Hub**	**Assemblage Analysis**
1. Field study in the United Kingdom in 2016	A qualitative study (interview and observation) of three creative hubs in the UK	An incubator; a co-working space; and a university-based hub.	Two mechanisms: (1) Formalisation through the analytical devices of form of content and form of expression, which in turn are conceptualised as: (i) parallel formalisation, (ii) reciprocal presupposition, (iii) formalised function. (2) (De/Re)Territorialisation through transformational movement
2. Field study in Indonesia in 2017	An in-depth ethnographic study (participant observation, interview and collecting archival data) of an intensive hub in Jakarta	A startup accelerator.	
3. A study of global virtual hubs in 2018	A mixed-method study (website categorisation of 25 virtual hubs and 10 interviews) of virtual hubs across the globe	Virtual hubs that rely primarily on digital technologies	

I will summarise the methodology of the three field studies in Chapter 3 of this thesis, with further detailed description in each study chapter. Moreover, as this thesis is written to explore my view of *"creative hubs as Assemblages"*, each chapter (Chapter 4, 5, and 6) will explain the findings and analysis from each field study that consists of different settings of creative hubs. Adopting this approach, this thesis thus analyses Assemblage throughout different contexts of hubs (such as co-located & non-co-located hubs, intensive & non-intensive hubs), kinds of hubs (incubator, co-working space, accelerator, training centre and virtual hubs) and processes in hubs (knowledge transfer, networking, experimentation and incubation). This analysis does not intend to establish a prescribed essence of a creative hub. Rather, it aims to formalise the multiplicity of a creative hub.

1.4. Thesis Outline

This thesis proceeds as follows:

Chapter 2 reviews recent literature on the two main topics in this thesis: Creative Hubs and Assemblage. This chapter first describes a number of definitions and kinds of creative hub to show the practical variations of creative hubs. Although the surveyed creative hubs are different from one another, they share a similar trait of co-location, also founded in the concepts of "cluster" and "district". This chapter then identifies four key processual qualities of creative hubs: (i) social capital; (ii) knowledge exchange; (iii) experimentation; and (iv) incubation for the development of new media, as well as three further qualities of creative hubs in the context of the creative industries. Next, the chapter draws a definition of Assemblage (as a concept) from the work of its primary authors, Gilles Deleuze and Félix Guattari (in both their collaborative and individual work). This chapter also differentiates Assemblage from other related concepts such as rhizome, *dispositif*, Actor-Network Theory, articulation and assemblage theory. It ends with a review of the employment of assemblage in recent scholarship, where I will also show the niche area for this study, viz, understanding creative hubs through Assemblage.

In Chapter 3, I describe my methodology taken in this thesis to answer the research question. This chapter starts with a brief summary of the data collection and data analysis of each case study. Subsequently, each study chapter will explain the detailed method/procedure. Of note here is the application of a philosophical concept to analyse the empirical findings. Thus, Assemblage is framed as an analytical framework in which it has to be 'translated' into a set of working analytical devices. Drawing from the tetravalence of Assemblage, I employ two main devices: formalisation and territorialisation. This methodology thus guides this thesis in its aim of looking at creative hubs as assemblages.

Chapters 4-6 present the findings and analyses from the field studies. These chapters are chronologically arranged according to the year each field study took place. Chapters 4-6 also represent the variations of the creative hubs under study.

Chapter 4, as the first field study chapter on three creative hubs in the UK, describes six thematic relational aspects that emerged from the studied creative hubs. Through the lens of Assemblage, this chapter frames the relational aspects identified as the in-between things that define the experience of working and the interactions in a hub. In its analysis section, I will argue that the Assemblage of creative hubs has the function to provisionally support the provisional.

In Chapter 5, the thesis proceeds to explore another kind of creative hub, i.e., a startup accelerator, as an "accelerator assemblage" that constitutes an intensive interaction in a creative hub. This chapter describes the ethnographic study undertaken for this startup accelerator, as well as the findings from the ethnographic exploration as categorised in three patterns. These patterns correspond with the form of content, the form of expression and the formalised function of an Assemblage. I argue that the startup accelerator presents a different practicality and function from the creative hubs as studied in Chapter 4, which, as will be shown, is to provisionally support the provisional. As such, the Assemblage analysis in this chapter will unravel the specific conditions under which this intensive hub gains its importance in supporting the development of nascent technology startups.

Chapter 6 then presents an exploration of an emerging hub practice, which is the practices of *virtual hubs* that seek to use digital services in order to provide a hub-like experience for those who are not co-located (or *less* co-located). This chapter describes a study of existing virtual hubs and how they rely on a set of digital media to manage the absence of in-person interactions. This chapter then presents findings from two modes of

inquiry, and analyses the strategies used by virtual hubs that digitalise the in-person hubs and building platforms. In the Assemblage analysis section, I will look at the conditions that define the work-in-progress (ups and downs, and strategies) of the virtual hubs.

Chapter 7 concludes by elaborating on the contributions of this thesis, implications and recommendations for future work. This chapter also reiterates not just the findings and analysis, but also the significance of this study and offers theoretical and practical implications and applications for future work.

CHAPTER 2

Literature Review

This chapter starts by explaining in Section 2.1 the concept of my central object of study — the creative hub — followed by formulating its key qualities. Section 2.2 reviews the concept of Assemblage in sub-section 2.2.1, centring on the primary works of Deleuze and Guattari and some secondary works after their collaboration. Section 2.2.2 differentiates the concept of Assemblage with other related concepts. Finally, section 2.2.3 details how Gilles Deleuze and Félix Guattari's concept of Assemblage can provide a lens to make sense of the current state of affairs of the creative hub, particularly in the context of new media, i.e., production/distribution, technology/medium and audience/user studies.

2.1. Creative Hub

2.1.1. Definitions and Kinds of Creative Hub

The term "creative hub" has been defined in several documents, such as project reports, policymaker documents and institutional web pages. Two different definitions of creative hubs, but with similar models, can be seen in two works commissioned by the British Council, namely, the Creative Hubkit (Matheson and Easson 2015) — a toolkit to form and develop creative hubs — and the report, "Creative Hubs: Understanding the New Economy", (J. Dovey, A. Pratt, T. Virani et al 2016). In the Creative Hubkit, Matheson and Easson (2015) define "creative hub" as

> …a place, either physical or virtual, which brings creative people together. It is a convenor, providing space and support for networking, business development and community engagement within the creative, cultural and tech sectors. (p.4)

In their "Creative Hubs" report, J. Dovey, A. Pratt, T. Virani et al (2016) write:

> The [creative] hub has become a ubiquitous idea connoting a dynamic bringing together of diverse talents, disciplines and skills to intensify innovation. *Generally, [creative] hubs have been understood as places that provide a space for work, participation and consumption."* (p.7, my emphasis)

Both documents describe five proposed models of creative hubs: studio; centre; network; cluster; online platform; and alternative. Their more detailed descriptions are as follows:

> *Studio:* Small collective of individuals and/or small businesses, in a co-working space; *Centre:* Large scale building which may have other assets such as a cafe, bar, cinema, maker space, shop, exhibition space; *Network:* Dispersed group of individuals and/or businesses – tends to be sector or place specific; *Cluster:* Co-located creatives individuals and businesses in a geographic area; *Online Platform:* Uses only online methods – website, social media to engage with a dispersed audience; *Alternative:* Focused on experimentation with new communities, sectors and financial models. (Matheson and Easson 2015, p.5; Dovey et al. 2016, pp.8-9)

In keeping with this diversity of forms, the British Council (2014) also acknowledges that creative hubs can take different forms, such as makerspaces, incubators, labs, hackerspaces; and they can be temporary, permanent, digital or physical.

The European Creative Hub Networks (ECHN) also provides a definition and mapping of different kinds of creative hubs. The ECHN (2016a) defines creative hubs as

> …platforms or workplaces for artists, musicians, designers, filmmakers, app developers or start-up entrepreneurs. They are uniquely diverse in structure, sector and services, and range from collective and co-operative, to labs and incubators; and can be static, mobile or online. (p.1)

Although the list of creative hubs is still open, the ECHN provides 14 different kinds of hubs based on their services and facilities provided, which are: co-working space; event space; exhibition space; meeting space; production space; film and sound recording studio; online directory and historical/cultural heritage site; ateliers; bar; café; cinema; and shop.

Lastly, in a report on Creative Hubs and Urban Development Goals (UK/Brazil), M. Shiach, D, Nakano, T. Virani et al (2017) write:

> They [creative hubs] are urban agglomerations, which promote connection between entrepreneurs, small and medium sized businesses in the creative sector and where links and knowledge co-creation happen. (p.8)

In the Creative Works London Working Paper (Virani and Malem 2015), five physical manifestations of creative hubs are described:

- co-working space;
- incubator;
- service centres for companies;
- training institution;
- and online/virtual platform.

Virani and Malem (2015) define a *co-working space* as a creative hub that provides "a combination of workplace and supporting facilities with easy in-out

contractual conditions", and an *incubator* as a creative hub with a distinctive feature of "provision of business support" (p.9). Taking from Sedini et al (2013), Virani and Malem (2015) define *service centres* as "public or private structures supporting the technological innovation and the know-how transfer" (p.9); a *training institution* as "a college or university or course or programme"; and an *online/virtual platform* as a relatively newer type of hub that, so far, provides forum-based support and online communication (p.9).

2.1.2. Co-location: Localisation, Agglomeration, Industrial District and Cluster

Despite the different definitions and descriptions of creative hubs, the creative hub nevertheless contains a singular general quality, namely, co-location. This quality of co-location also relates to the concept of localisation of industries that was initially based on physical characteristics of a land. As Marshall observed: "many various causes have led to the localization of industries; but the chief causes have been physical conditions; such as the character of the climate and soil, the existence of mines and quarries in the neighbourhood, or within easy access by land or water" (1890, p.223). This localisation is also known as agglomeration. Malmberg and Maskell (2002) argue that agglomeration is related to the spatial concentration of people or economic activity. They then identify two meanings of agglomeration: firstly, the tendency for people and economic activity to concentrate in cities or industrial core regions; and secondly, the tendency for firms within a closely related industry to gather at certain places (Malmberg and Maskell 2002). Therefore, traits of agglomeration include a coming together — co-location — of different resources, people and firms in a specific location or broad regional/geographical concentration due to the location's physical advantages. A creative hub that involves the coming together of various elements thus corresponds to these traits of agglomeration.

Agglomeration has mechanisms and benefits in relation to goods, people and ideas. Potter and Watts (2014, p.604) emphasise that "Marshall identified three mechanisms — the so-called trinity of agglomeration economies — that generate increasing returns in agglomerations: a local pool of skilled labour, local supplier linkages and local knowledge spillovers". According to Ellison, Glaeser and Kerr (2010), industrial agglomeration can reduce transport cost, whereby Marshall focused on three types of cost reductions in the form of lowering the cost of moving goods, people and ideas. These three benefits can thus induce firms to co-locate in a specific area. Consequently, placing firms near each other can increase the concentration of economic activities in that specific area, especially to agglomerated firms where the core production activities are kept to that specific area.

As a co-located space, the creative hub shares traits not only of agglomeration such as co-location of different elements in a specific location and its abovementioned benefits, but also with the more established forms of co-location such as the "industrial district" and the "cluster". I will deal with them in turn. Firstly, references to "the industrial district" can be seen from the work of Priore and Sabel (1984) on craft industries in the Emilia-Romagna region of Italy, and from the work of Saxenian (1991) on technological industries in the Silicon Valley. These two studies present a number of firms or local institutions with a district-based specialisation such as that related to craft in the Emilia-Romagna region, or as related to computer technology in the Silicon Valley region, where these firms come together in a cooperative and trade network in producing their works and sustaining their firms.

However, to relate the industrial district back to the creative hub, an industrial district heavily relies on institutional arrangement because of the scale of the people involved and economic activities involved, while a hub can have a lesser arrangement. I

use two examples to show this institutional arrangement. The first one is an example from the '*hub-and-spoke*' industrial district as presented by Ann Markusen (1996). The hub-and-spoke industrial district presents a number of key firms and/or facilities which act as anchors to or hubs in the regional economy, with suppliers and related activities spread out around them like spokes of a wheel (Markusen 1996). For instance, "a single large firm (e.g., Boeing in Seattle or Toyota in Toyota City) buys from both local and external suppliers and sells chiefly to external customers, who may be large or masses of individual consumers" (Markusen 1996, p.302). The second example is from the work of Neil Coe (2001) on the "Satellite-Marshallian Industrial District". Neil Coe (2001) argues that Markusen's categories "do not capture the dynamics of industries with *less 'linear' production systems such as the film industry*" (p.1757, my emphasis). Coe (2001) thus proposes a hybrid model, the "Satellite-Marshallian Industrial District", where, in the context of the film industry, the whole pre-production and production and basic post-production are enacted by local firms in Vancouver, while Hollywood (in Los Angeles) still retains control on story rights, financing productions, most of post-production, film distribution and exhibition. These two examples demonstrate, in different ways, for the institutional arrangement of the industrial district as a large-scale and long-term cooperation that involves firms, people and policymaker of a city or a region to work together for a specialised focus.

With respect to the second form of co-location — viz, references to the "cluster" — this can be traced from the work of Porter and other scholars who develop and critique it. "Cluster", as defined by Porter (1998), is "a geographic concentration of interconnected companies, specialized suppliers, service providers, associated institutions and firms in related industries" (p.78). Silicon Valley, Hollywood, the California Wine Cluster, and the Italian Leather Fashion Cluster are some examples of such a "cluster" (Porter 1998).

However, Pratt (2004) also criticises the notion of the cluster because it "focuses on the firm and its ability to be competitive" (p.53) but pay less, if any, attention to non-economic aspects such as "trust, social networks and a whole range of tacit knowledges" (p.52). Also, the cluster does not pay attention to the specificity of particular industries (Pratt 2004). Again, relating the cluster back to the creative hub, the former focuses on the firms or the business entities and the competitive, and primarily economic, advantages brought about by co-locating those entities, while a creative hub can consider both the 'economic' and the non-economic aspect of the creative industries.

In summary, these elaborations on the industrial district and the cluster indicate that they are both related to co-location, but also to the localisation of industries, or agglomeration, and the business entities and the competitive and economic advantages brought about by their co-location. Returning to the creative hub, J. Dovey, A. Pratt, T. Virani et al (2016) emphasise that the concerns of articulating the creative hub are with "not the location, but the nature and quality of the productive relationships that occur inside the [creative] hub" (p.11). These productive relationships can include non-economic aspects, including (as mentioned above) "trust, social networks and a whole range of tacit knowledges" (Pratt 2004, p.52). However, I argue that this emphasis by J. Dovey, A. Pratt, T. Virani et al (2016) does not undermine the importance of co-location for creative hubs, which remains a central concern. Rather, my review above suggests that co-location is a central quality of creative hubs, in view of the benefits as elaborated above, but it is not the only quality that defines it, as I will proceed to show in the next subsection.

2.1.3. Definitional Aspects of the Creative Hub

Out of the above definitions of creative hubs in section 2.1.1 and review of co-location in section 2.1.2, I identify four *definitional* aspects that I argue characterise a creative hub. Thematically, these definitional aspects are:

(i) a space for co-location;

(ii) a group of elements or actors;

(iii) a model that includes support provided; and

(iv) a model of ownership.

First, in general, a creative hub is a co-located space, either in a physical or virtual form and either in a permanent or temporary space, for various actors and resources in the creative industries. Co-location in this sense is a coming together of different elements in a space in terms of production, distribution and consumption of creative products. Second, creative hubs contain elements or actors from different backgrounds, such as the creative, technological, cultural and business sectors. Third, creative hubs take on different models such as that of an incubator; a consultancy and training centre for companies or groups of individuals; and/or an office/co-working space and event space. These models are also accompanied by their respective arrays of support such as business development, business support, networking, and community engagement. Fourth, creative hubs are owned in some form, which may be private-led, state-led or a mixture of private-led and state-led.

I argue that these four definitional aspects define a creative hub in a way that is more specific than being generally co-located, and which can also accommodate its various models. However, defining a creative hub should also include qualities that can explain what a creative hub can do. In the next two subsections, I will thus present four

key *process-oriented (or processual) qualities* and three *industry-specific qualities* of creative hubs to boost our understanding of them.

2.1.4. Key Processual Qualities of the Creative Hub

From the literature in the field, I identify four key *processual qualities* of the creative hub which relate, non-exhaustively, to the processes and interactions in it. The first processual quality is the *social capital* of entrepreneurs as accumulated in this kind of space because of the association of individuals who have worked together in other companies over time (Myint, Vyakarnam, and New 2005). Social capital can compose of individual and collective social networks that help the entrepreneur to get access to information and know-how (Bøllingtoft and Ulhøi 2005). Social capital has three dimensions: a structural dimension (network ties and configuration); a cognitive dimension (shared language, codes and narratives); and a relational dimension (trust, norms, identifications, obligations and expectations (Nahapiet and Goshal in Tötterman and Sten 2005, p.490)). Entrepreneurs need these dimensions and expect the incubator to provide them, especially the relational dimension (i.e., trust, norms, identifications, obligations, and expectations) because trust is essential to the tenants (Tötterman and Sten 2005). Studies also support the important role of social capital to entrepreneurs, especially in the technology sector (Lin, Li, and Chen 2006; Anderson, Park, and Jack 2007; Mosey and Wright 2007).

The second processual quality relates to *knowledge exchange*. In creative hubs, knowledge exchange can happen through formal knowledge transfer activities, knowledge spillovers, and transfer of tacit knowledge. Knowledge exchange can also happen by promoting cooperation amongst internal firms and linkage between firms and academic institutions (Schwartz and Hornych 2010). Knowledge spillover is defined by

Griliches (1992, pp.36-37) as "working on similar things and hence benefiting much from each other's research." This exchange through knowledge spillovers can also be linked to Alfred Marshall's intellectual spillovers in agglomerations in which, as mentioned above, these spillovers arguably reduce the cost of moving ideas (Ellison, Glaeser, and Kerr 2010). Another way of knowledge exchange is the transfer of tacit knowledge. Tacit knowledge, as formulated by Michael Polanyi (1958), cannot be communicated in any direct or codified way and concerns direct experience (Howells 2002). This kind of knowledge transfer is also recognised as knowledge flows in an incubator (Rubin, Aas, and Stead 2015).

The third processual quality of creative hubs is *experimentation*. Sites such as makerspaces, hackerspaces and hardware incubators, all indicated (in Section 2.1.1) to be kinds of creative hubs, emphasise technical experimentations, but these experimentations can create more than technical impact. Lindtner, Hertz and Dourish (2014) argue how sites like hackerspaces and hardware incubators/accelerators can also play a role as research and development spaces that supports the activity of startups. These emerging sites of technical innovation make prototypes which may be developed further into products with mass-production potential, and so be drivers of economic and societal change (Lindtner, Hertz, and Dourish 2014; Lindtner and Li 2012). These sites are not only about bringing resources together, but also about the interplay of makers, startups and designers inside those sites and what they can bring about. These sites of experimentation can also strengthen the community's life through their technical activities, as seen in the study of makerspaces which show that these sites play a variety of roles in the community's civic life: as a social space, serving local needs, wellbeing and empowerment, and widening access in some form of outreach (N. Taylor, Hurley, and Connolly 2016).

The fourth key processual quality relates to *incubation*, i.e. the quality of creative hubs to nurture and develop emerging business, as described above by the British Council (2014), Matheson and Easson (2015), Virani and Malem (2015), J. Dovey, A. Pratt, T. Virani et al (2016), and ECHN (2016a). In particular, Mian, Lamine and Fayolle (2016) argue that the intent of the technology business incubator is to help startups by providing enabling linkages to help the new business survive, scale up, and grow. The incubation process can appear in two forms – as an incubator or as an accelerator (fixed-term and cohort-based incubator) – to support technological startups. Different types of incubators[3] assist emerging businesses with business and technical assistance[4] (Grimaldi and Grandi 2005; Scillitoe and Chakrabarti 2010). One prominent supporter in assisting emerging businesses is that of venture capitalists who play important roles in financing, selection, collective learning, embedding and signalling in a complex innovation network of agents, such as those found in Silicon Valley (Ferrary and Granovetter 2009). A kind of incubation can exist in a fixed period of time, ranging from three to 12 months, and/or with class or cohort-based support (as in the form of the startup accelerator) (Pauwels et al. 2016). Other kinds of creative hubs, such as accelerators, help cohorts of startups by providing mentorship and networking activities (to define and build their initial product, identify customer segments, secure resources). They also often provide small amounts of capital and working space, with the class or cohort usually finishing with a Demo Day or a pitch from startups in front of an audience (Miller and Bound 2011; S. Cohen and Hochberg 2014; Bone, Allen, and Halley 2017b). Incubation can also happen in virtual form, e.g. a virtual incubator or accelerator with a focus on investments and business-related services (Nowak and Grantham 2000; Bone, Allen, and Halley 2017b).

2.1.5. Key Industry-specific Qualities of the Creative Hub

Finally, I argue that creative hubs can also possess specific qualities in the context of the creative industries. So far, I have discussed how creative hubs share a general definitional quality, i.e., co-location, with the other forms of two forms of agglomeration (industrial district and cluster; alongside four other definitional aspects) and has four key processual qualities that explain what the creative hub does. However, *industry-specific qualities of creative hubs* can also be identified within the frame of the creative industries. In my view, adding *"creative"* to *"hub"* indicates a specific connection to the creative industries. According to the Department for Digital, Culture, Media & Sport (DCMS), nine sectors make up the creative sector:

1) advertising and marketing,

2) architecture,

3) crafts,

4) design: product, graphic, and fashion design,

5) film, TV, video, radio and photography,

6) IT, software and computer services,

7) publishing,

8) museums, galleries and libraries, and

9) music performing and visual arts (DCMS 2016).

These industries need spaces for the activities and processes that relate to the production, distribution and consumption of creative products and services – and creative hubs can be a candidate for that space. Through scholarship about the creative industry, I thus identify three *industry-specific qualities* for the creative hub. These are:

(i) being a space for production, distribution and consumption;

(ii) accommodating the non-linear process of creative industries; and

(iii) championing of human creativity.

I discuss them in turn below.

Firstly, creative hubs, as a production space, can be a site for authoring, designing, image-creation, and digital content origination as well as for commissioning, aggregating and packaging of the content, and for commercialisation of intellectual property rights (Pratt 2004). In terms of distribution, creative hubs can be associated with activities to channel creative products and services to the end-user through physical and digital ways (Pratt 2004). Consumption also takes place in creative hubs, relating to "venue-based activities and exchange of the rights to consume" like exhibition and retailing (2004, p.57). Therefore, creative hubs play a role in one or more of these processes (production, distribution, and consumption) of the creative industries. Specifically, the creative hub can also support those processes for "the loosely configured creative networks", such as small-to-medium enterprises, individual or groups of creative talents which are a core source of innovation in the arts, media and culture (Flew and Cunningham 2010, p.120).

Secondly, creative hubs can take part in the "less linear" production processes of the creative industries. Referencing again Neil Coe (2001), he provides an example from the film production system in Vancouver where the processes of *acquisition* (story, funds, key individuals), *pre-production*, *production*, *post-production*, *promotion* and *exhibition* can evolve sequentially, but "there is no linear structure of adding value to a manufactured product as in many production system" (p.1758). Similarly, Andy Pratt (2004) highlights this non-linearity. He explains how the production chain or cycle within the creative industries consists of *creation/content origination*, *manufacture*, *distribution and mass*

production, and *exchange*. Nevertheless, he warns that this production model "is not so helpful in capturing the complexities of the many 'horizontal' relationships and interdependencies that exist between different sub-sectors of the creative industries, and with industries and institutions outside the creative industries" (Pratt 2004; p.59). These two arguments indicate a distinctive process in the creative industries — and in each sector of creative industries as well — that is dissimilar from other industries. Creative hubs then, on the one hand, have the flexibility to accommodate this less linear production process and, on the other hand, have the robustness in supporting the actors or elements that are involved in the processes and activities in the creative industries.

Lastly, creative hubs champion human creativity, a key driver in the creative industries (DCMS 2016; Flew and Cunningham 2010) where creativity is used to engage in value creation. In other words, human creativity is "the core source of economic value generation" (Lee 2017, p.1078). Furthermore, Richard Florida (2002), in his book, *The Rise of the Creative Class*, refers to the creative class as knowledge workers or professionals. This renders creativity not only as a particular quality associated with the arts or those with artistic talent, but as something essentially 'democratic' in that everyone can learn it and, indeed, is a co-operative activity and best learned via collective activity (Oakley 2009). In the bigger context, creativity is not only associated with the cultural or art sectors, but also with other sectors of the creative industry such as film, TV, video, radio and photography, IT, software and computer services. Creative hubs thus rely on human creativity throughout the whole process of value creation.

Table 2. Review of Definitional Aspects and Qualities of Creative Hubs

Reviews	**Key Points**
Definitional Aspects	• Space for co-location • Group of elements or actors • Model that includes support provided • Model of ownership
Processual Qualities	• Social capital • Knowledge exchange • Experimentation • Incubation
Industry-specific Qualities	• Being a space for production, distribution and consumption • Accommodating the non-linear process of creative industries • Championing human creativity

In summary (see Table 2 above), the creative hub, as both a contemporary term and a multi-practice entity, involves co-location of talents and resources from various backgrounds such as creative, cultural, technology and business sectors. Creative hubs — either in a physical or virtual form — provide infrastructures and interconnectivities for collaboration and production in the creative industries sectors. This review has shown the importance of creative hubs in supporting startup founders or creative businesses/projects in terms of business support, technological support, mentorship, networking and access. It also described the creative hub's definitional aspects, key processual qualities and industry-specific qualities. These importance and qualities can be seen as something actual, which, as I will argue, resulted from interplay of elements in the *virtual*. Thus, understanding the interactions in the creative hubs requires a framework that can help to analyse the structure of the hubs' elements in both their virtual and actual effects. This framework, taken from Assemblage theory, will be explained in the next section.

2.2. Assemblage

2.2.1. What is an Assemblage?

Assemblage[5], translated from the French word "agencement"[6], as a critical term is expressed in three works by Gilles Deleuze (two of them in collaboration with Félix Guattari) and all written originally in French. Firstly,[7] the articulation of Assemblage occurred in an interview with Claire Parnet — later published in the book, *Dialogues* (1977, originally in French) — where Deleuze answers the question, "what is an assemblage" and replies : "It is a multiplicity which is made up of many heterogeneous terms and *which establishes liaisons, relations between them, across ages, sexes and reigns – different natures.*" (Deleuze and Parnet 1987, p.69 translated edition; emphasis added) By this definition, Assemblage focuses on making connections and relations between different things or bodies, as Deleuze and Guattari (1987) write: "an assemblage establishes connections between certain multiplicities" (p.23). Accordingly, Assemblage appears before things and exists the space of the *in-between*, where "between things does not designate a localisable relation going from one thing to the other and back again, but a perpendicular direction, a transversal movement" (p.25).

Assemblage also appeared in Deleuze and Guattari's work, *Kafka: Toward a Minor Literature*, in which the term "Assemblage" was first published in French in 1975. They describe an Assemblage as having two sides: "[an assemblage consists of] a collective assemblage of enunciation [in other words, expression]; it is a machinic assemblage of desire [in other words, content]." (Deleuze and Guattari 1986, p.81 translated edition) These two sides correspond respectively to the form of expression and form of content of an Assemblage in Kafka's literatures. According to Deleuze and Guattari (1986), examples of these forms can be seen in Kafka's work such as *The Castle*,

where there is a portrait of a porter with his head bent, and in *The Metamorphosis*, where there is an actual mother with a bent head and an actual father who wears a porter's uniform. These two forms — bent head (form of content) and portrait/photo (form of expression) — constantly appear in Kafka's works with variations (Deleuze and Guattari 1986).

A more elaborate articulation of Assemblage lies in their 1980 work (originally in French), *A Thousand Plateaus*, where Deleuze and Guattari write:

> On a first, horizontal, axis, an assemblage comprises two segments, one of content, the other of expression. On the one hand, it is a machinic assemblage of bodies, of actions and passions, an intermingling of bodies reacting to one another; on the other hand, it is a collective assemblage of enunciation, of acts and statements, of incorporeal transformations attributed to bodies. Then on a vertical axis, the assemblage has both territorial sides, or reterritorialized sides, which stabilise it, and cutting edges of deterritorialization, which carry it away. (Deleuze and Guattari 1987, p.88)

Following the articulations above, if Assemblage exists in the space of the in-between, then Assemblage apparently does not consist of things in themselves. By considering the form of content and form of expression, then these two forms constitute the Assemblage — this is the first axis. Assemblage is also not a static entity; it always moves along lines of territorialisation that can stabilise or de-stabilise the formation — this is the second axis. The forms — content and expression — and territorial lines — territorialisation and deterritorialisation — will be the analytical framework of this study, to be further elaborated in Chapter 3 of this thesis's methodology.

In terms of its operation, an Assemblage is better understood as an arrangement, or a "working arrangement" (Buchanan 2015). In that direction of the contingent, there is also a notion of being somewhat unfettered and flexible — as N. Katherine Hayles (2016) describes, "the notion of an arrangement not so tightly bound that it cannot lose or add parts, yet not so loosely connected that relations between parts cease to matter; indeed, they matter a great deal." (p.33) What, then, holds such an arrangement together, if all is contingent or flexible? What is its central binding in order to think of the co-existence and co-arrangement of its disparate elements in a meaningful way? As stated in *Dialogues*: "Thus, *the assemblage's only unity is that of co-functioning*: it is a symbiosis, a 'sympathy'. It is never filiations which are important but alliances, alloys; these are not successions, lines of descent, but contagions, epidemics, the wind" (Deleuze and Parnet 1987, p.69 ; emphasis added). That is to say, an Assemblage has a temporary arrangement that is open to change because, rather than permanently falling into a particular 'structure', an Assemblage makes connection beyond (or, through the space of the in-between of) that structure.

2.2.2. Assemblage and Related Concepts

There are numerous concepts that are similar to or can be related to Assemblage, such as the *rhizome*, again by Deleuze and Guattari. Assemblage has also been connected with network-like concepts such as *dispositif* from Foucault and *Actor-Network Theory* from Callon and Latour. More recently, there are efforts by Slack and Wise to extend assemblage to Stuart Hall's adoption of *articulation* and to a more general *assemblage theory*.

Assemblage's way of operating corresponds with the rhizome[8] model in that a rhizome can be connected to any other thing, consists of multiplicity with no points but

only lines, may be broken but will start up again on one of its old lines or on new lines, and has no deep structure (Deleuze and Guattari 1987, pp. 7-12). Therefore, this rhizomatic structure offers a way of conceptualising an Assemblage as non-linear, non-hierarchical, multiply constituted, and an inherently complex process (Deleuze and Guattari 1987). In other words, a rhizome is an open system (Boque 1993) that connects any point to any other point. Therefore, we can think of the rhizome model as a way of thinking and perceiving, including the principles, of the space of the in-between, whereas Assemblage is a conceptualisation/ concept or entity of that space with an actual effect.

Assemblage also relates to the notion of the network. For example, Stephen Legg (2011) suggests that assemblage can be thought dialectically with Foucault's concept of the *dispositif*. Eriksson (2005) argues that both Deleuze and Foucault share a model of the network which enables us to think about the ontology of "complex technological, theoretical, economic and political processes in a coherent way that nevertheless cannot be reduced to a system" (p.603). Foucault calls his device or model *dispositif* — networks of power — as Deleuze calls his *agencement*, translated as assemblage. Further, "dispositif is to be understood as a network of relationships that, in a given historical period, organizes the field of power and knowledge as both an object of speech and a field of experience." (Eriksson 2005, p.600) Hence, "Deleuze considered the dispositif of power to be a component of agencement" (Eriksson 2005, p.604).

Assemblage has also been compared with Actor-Network Theory (ANT). Slack and Wise (2015) explain that ANT involves the concepts of *actor*, *translation*, *delegation*, *prescription* and *network*. Taking from Callon and Latour (1981), the pioneers of ANT, "an actor is any element which bends space around itself, makes other elements dependent upon itself, and translates their will into a language of its own" (Slack and Wise 2015, p.140). They explain that in the process of translation (which is delegation), the task is

inscribed to an element e.g. technology, and then, that technology prescribes back the particular task to the user (2015). Specific to the issues with ANT, Slack and Wise (2015) writes that ANT sometimes encourages thinking in terms of actors and networks as both stable and separate – it is important to resist this tendency – and ANT tends to treat agency as if it were somehow universally available, whereas in fact, there is unequal distribution of agency and power in networks. Moreover, for Nigel Thrift (2000, p.214) ANT is "good at describing certain intermediated kinds of effectivity, but dies a little when confronted with the flash of the unexpected and the unrequited". He continues: ANT "still has only an attenuated notion of event, of the fleeting contexts and predicaments which produce potential" (2000, p.214). Finally, ANT "has tended to neglect specifically human capacities of expression, powers of invention, of fabulation, which cannot be simply gainsaid, in favour of a kind of flattened cohabitation of all things" (2000, p.214).

As such, in comparing ANT and assemblage conceptually, Müller and Schurr (2016, p.3) argue that "the most significant gulf between ANT and assemblage thinking is thought to be ANT's preoccupation with the actual vis-à-vis the preference for the virtual in assemblage thinking." They define the virtual by citing Massumi — the "virtual as … a realm of potential" (2016, p.3) — as something that is not actual yet. It seems that they place assemblage, or assemblage thinking as they put it, as something less to do with the actual or social-material world. Although they have proposed efforts for the cross-fertilisations of both ANT and assemblage thinking, they acknowledge that how "assemblage thinking provides few concepts for empirical work is not surprising; after all it is a philosophical perspective, not an empirical toolbox [*like what ANT has provided*]" (2016, p.4). With respect to this claim, it is true that *A Thousand Plateaus (1980)* — where Assemblage is also presented — is a philosophical work, but it does not mean that Assemblage cannot be employed further in empirical work. In Deleuze's book on

Foucault, he applies Assemblage's concepts such as form of content and form of expression when reading Foucault's works (Deleuze 1988); Deleuze and Guattari also apply the same approach of use of form of content and form of expression when they read the works of Kafka. Additionally, secondary works that employed Assemblage exist after their publications, as will be discussed in section 2.2.3 of this chapter.

A more recent concept related to the Assemblage is *articulation*,[9] as associated with Stuart Hall. "Articulation draws attention to the contingent relations among practices, representations, and experiences that make up the world, whilst assemblage draws attention to the structuring and affective nature and work of these articulations" (Slack and Wise 2015, p.151). Slack and Wise (2015, p.157) then integrate assemblage and articulation into a conception, where "an assemblage is a particular constellation of articulations that selects, draws together, stakes out and envelops a territory that exhibits some tenacity and effectivity." Further, they argue that articulation dominantly focuses on human agency, but that is not the case for assemblage (Slack and Wise 2015). They then offer a view of technology as assemblage.

Lastly, Assemblage has also been extended further as *assemblage theory*. Manuel DeLanda (2006) rearticulates Deleuze and Guattari (1987) in that an assemblage's components may play variable roles in an axis from a purely material role to a purely expressive role, and that they may also become involved in processes of territorialisation and processes of deterritorialisation. He then adds the emergent capacity of a whole accumulation of components and the idea of an assemblage that can be part of larger assemblage or that can be scaled up. However, Ian Buchanan (2015) rejects DeLanda's two additions because, according to Buchanan, an Assemblage does not constitute a part-whole relation, nor is it the product of an accumulation of individual acts, and does not change incrementally (p.388). By taking into account Deleuze and Guattari's employment

of content and expression, Assemblage consists of form of content and form of expression. Additionally, in the latest elaboration on assemblage theory, DeLanda (2016) departs from Deleuze and Guattari by "stick[ing] to the simpler usage, speaking of assemblages and their material and expressive components, rather than making a distinction between types of assemblage [i.e., machinic assemblage and collective assemblage of enunciation]." (p.55,)

My intention in this thesis is to engage with the explanatory (including generative) nature of Assemblage by looking at it via the space of the *in-between*. Hence, I refer back to the primary texts where Deleuze and Guattari introduce and employ the concept of Assemblage, and to use the subsequent elaborations to help grasp a more robust understanding of this multifaceted concept. In other words, the formalisation and territorialisation of Assemblages are useful "to understand their structure, their work, their power, their reach, and their effects" (Slack and Wise 2015, p.162). These two axes of assemblage — formalisation (form of content and form of expression) and territorialisation (re/territorialisation and deterritorialisation) — that concern the organisation of the space of the *in-between* (*virtual*) and the actual impact (such as material and expressive configurations) in that space are thus the primary reasons why I have chosen to employ Deleuze and Guattari's theory of Assemblage instead of the related concepts above.

2.2.3. Employment of Assemblage

There are several examples which demonstrate how Assemblage has been applied in analysing particular contexts or phenomena. One example, as already mentioned, is Deleuze and Guattari's analysis of the work of Franz Kafka in their book, *Kafka: Toward a Minor Literature* (Deleuze and Guattari 1986). Another is when they analysed the

prison in *A Thousand Plateau* (Deleuze and Guattari 1987), and when Deleuze himself extends Assemblage to the analysis of Foucault's work in *Foucault* (Deleuze 1998a). In using Assemblage to analyse the prison, Deleuze writes that the prison-form is the form of content, and delinquency is the form of expression (Deleuze 1988a, p.31-33). The prisoners' bodies, the verdict by the judge, containment strategies implemented by the guards, and the prison building are the substance of the form of content: prison-form. In particular, the verdict declaration is chosen as the contributor to the substance of the content because in Deleuze and Guattari's terms, the verdict or pronouncement of guilt enacts *incorporeal transformation* of a person from a law-abiding civilian to a criminal — the physical body remains the same but the social status has changed. As a form of expression, delinquency expresses a new way of evaluating and committing crimes, a new way of articulating infractions, sentences and their subjects, which would be a perfect match with the prison-form as the form of content (Deleuze and Guattari 1987, p.67; Deleuze 1988, p.30).

While prison Assemblage (prison-form and delinquency) resides in its current changeable equilibrium, but as Brian Massumi (2002, p.xix) explains, "this formation [of prison-form and delinquency] has a tendency to drift over time on the territory [i.e., reterritorialisation and deterritorialisation]" (p.xix). This Assemblage currently resides in the territory, brings about the organisation of the prison building with its containment strategy to the prisoners and a set of enforced rules that is articulable from penal law, which Deleuze expresses as the "system of language that classifies and translates offences and calculates sentence" (Deleuze 1988, p.32). Thus, when this formation experiences deterritorialisation, it means that both the prison-form (with its components) and the delinquency (with its components) transform, and in some cases, can re-territorialise (not necessarily with all the components) as a new formation. As expressed by Massumi

(2002), "'Delinquency' would subsequently migrate, extending to a new form of content: the school. The school form owed not a little to the strategies of containment implemented in the prison" (p.xix). Therefore, understanding what an Assemblage is couples with what it can transform, re-territorialise and open up, as seen in this cited example, where the prison opens up to a new formation of the school, and even possibly to other forms such as the army barrack and the hospital.

In emphasising the concept of Assemblage in relation to its origins (form of content and form of expression), another example can be seen in Ian Buchanan's (2015) employment of Assemblage in the climbing of Mount Everest. The effort of reaching the peak of Everest is the form of content and the symbolic accolade as the one who can conquer the peak is the form of expression (Buchanan 2015, pp.390-391). Moreover, the two forms have a "feedback loop" as the following: "if the symbolic accolade is not great enough, then the effort will seem out of proportion; by the same token, if the effort required is not great enough, then the symbolic accolade will seem undeserved" (2015, p.390). The relation between these two forms — a dialectical relationship according to Buchanan; a reciprocal presupposition according to Deleuze and Guattari — has actual effects for the heterogeneous elements involved. A manifestation for this relation is that, instead of the K2 mountain which is factually the world's most difficult mountain to climb, the prestige goes to the Everest as the tallest mountain, attracting thousands of people to reach its summit. The impact to the actual social field by this Assemblage (productive intersection of both forms) is thus that "the prestige of climbing the world's highest peak remains so great that overcrowding on the climb is now more imperilling than the physical hazards from ice and rock" (2015, p.391).

Otherwise, the employment of Assemblage in terms of formalisation and territorialisation is rarely seen in the field of media studies with the exception of the

following two works. In the late 1990s, Wise (1997) used Assemblage to explore the dynamic relations between technology and social space, in which technology (content) and language (expression) in a particular relation defines human social space. More recently, Harper and Savat (2016) use Assemblage, effect and affect, to understand the relation between media and audience; for them, an effect (media effect) is viewed as behavioural change because of viewing media, while in terms of Assemblage, an affect is preferable because it is seen as the change in intensity from connecting to an assemblage. As such, the concept of Assemblage is used to elicit the relationship dynamic in the technological, the social, and the audience's interaction. In further usage, studies using Assemblage such as in computer games, friendship assemblage in Facebook, television assemblage, and civic movement starting from social media have developed in two streams: (i) constellations of heterogeneous elements; and (ii) rhizomatic assemblage. I elaborate as below.

Firstly, previous work on Assemblage is closely related to the constellation of heterogeneous elements. An assemblage-based analysis of computer games acknowledges these different elements (human, nonhuman, social, and institutions) that constitute a particular assemblage of play and interrelations to one another (Taylor 2009). In a study of the assemblage of friendship, "friendship" on Facebook clearly exists as a relation between multiple actors, not only human individuals but also nonhuman software actors. Users not only forge connections with "friends" via online platforms; the platforms themselves also contribute to the creation of these social connections (Bucher 2013). In an ethnographic study of online video distribution technology, assemblage is used to understand different elements, such as community, activist and fan video producers across continents, and video sharing sites/platforms, engaged in various processes of stabilising and destabilising resulting from their complex and contested natures (Hondros 2016). By

examining human-technology relationships using Assemblage, McGregor Wise (2005, pp.80-85) presents a new way of thinking from what he terms "the received, the contextual and the articulation view"[10] to look at mobile phone usage as thumb-key-software-transmission assemblage.

Secondly, as an open system, rhizomatic assemblage benefits those who study the interconnectivity of human and non-human elements. By contrasting rhizomatic assemblage with stratified assemblage,[11] Teresa Rizzo (2015) analyses television assemblages (that includes television, viewers, industry, texts and related technology), where she argues that multiplatform television and broadcast/network television are not in opposition but rather exist in a relation of reciprocal determination. Rhizomatic assemblage is also employed by Joanne Lim (2017) to understand civic movements in Malaysia which start from the call to participate on social media activities to actual color-coded rallies. Similarly, through *The Meatrix* rhizome, Dylan Wolfe (2009) analyses the spread of *The Meatrix*, a video animation criticism of factory farming, and formulates the text as an open distributed system that contains a dynamic relation of intertextuality, disseminating technology, and user experience.

Employment of Assemblage also appears in studies of interactions between humans and technology, such as vis-à-vis the computer. For example, previous studies in the field of Human-Computer Interactions (HCI) have employed Assemblage in the study of assemblage and affect in improvisational digital music making (Swift 2012), of sociotechnical assemblage in the human-machine reconfigurations (Suchman 2007), of sociomaterial assemblage in exploring technology at work (Orlikowski 2007), and of big data as a data assemblage (Kitchin 2014).

2.2.4. Summary

Table 3. Review of Assemblage

Reviews	**Key Points**
What an Assemblage is	• An entity in the space of the in-between • Consists of form of content and form of expression • Moves along territorialisation lines: (re)territorialisation and deterritorialisation • Structuring and organising heterogeneous elements
Related Concepts	• Rhizome • Dispositif • Actor-Network Theory • Assemblage and Articulation • Assemblage Theory
Employment of Assemblage	• Through formalisation and territorialisation • As configuration/constellation of heterogeneous elements • As rhizomatic assemblage

In summary, it is clear from the abovementioned studies in their various contexts that there is room for further exploration of interactions in co-located spaces such as creative hubs. The literature review in section 2.1 on the creative hub elaborated on the definitional aspects, processual qualities, and industry-specific qualities of creative hubs, and presented a niche for understanding the structure and interplay in the virtual or the space of the in-between in which those interrelations arrange or structure the heterogeneous elements. Section 2.2 on Assemblage (see Table 3 above) reviewed and differentiated Deleuze and Guattari's Assemblage, and presented the usage of Assemblage in media studies as well as in human-computer interaction. However, as put together, the usage of Assemblage that places strong emphasis on the form of content, form of expression and territorialisation together with their impact on the interactions in creative hubs is not yet explored. Therefore, this thesis proposes to use the approach of

Assemblage to explore the production and, more specifically, the structure of these interactions in creative hubs. The next chapter will explain my approach and methodology.

CHAPTER 3

Methodology

As explained in the Introduction, my thesis focuses on understanding the interrelations of different elements in creative hubs. My argument is that these interrelations happen in a particular way because of the interplay of elements in the space of the in-between. To examine the interrelations of different elements in a specific creative hub, an empirical activity is required to understand the actual and specific configurations of those elements, where I then apply Assemblage to understand the state and cause of those configurations in each creative hub. This methodology chapter thus describes how I weave my empirical studies with Assemblage as the lens to analyse their findings. In the first section of this chapter (section 3.1.), I explain the general empirical methods (to be supplemented in greater detail in the specific chapters on each field study) that I used to understand different kinds of creative hubs with the intention of looking at them in their uniqueness. In the second section (section 3.2.), I explain my treatment of the concept of Assemblage as the analytical method for this study.

3.1. Empirical Methods

My empirical examinations in this study comprise of three field studies undertaken in different kinds of creative hubs. I conducted three instances of field work consecutively in 2016, 2017 and 2018 in different kinds of creative hubs for cross-context examination, which also means I consider the uniqueness of the models of the creative hub and the specificity of each data collection method. The uniqueness of the models of the creative hub is significance here because each model of the creative hub, such as co-

working space, incubator, innovation space, accelerator, and virtual/online model, has its variations in terms of, for example, the kinds of human and non-human elements in it, why they exist, how they operate, and how they build and maintain relations with their stakeholders. Therefore, this whole study employed qualitative approaches where each field study utilised different methods of data collection (interview, observation, ethnography and website categorisation; see also my further notes on these data collection processes in Appendix C) which will be discussed in greater detail in each case study chapter. I also analysed the collected data in each case study (via building themes in Chapter 4; recursively developing patterns in Chapter 5; and categorising and building themes in Chapter 6; see also my further notes on these coding procedures in Appendix D) and presented them in the findings section of each study chapter.

3.2. Assemblage as Analytical Framework

As mentioned earlier in Section 2.2.1 ("What is an Assemblage?") of this thesis, I employ Assemblage as an analytical framework for my study of creative hubs. Specifically, I use two analytical concepts — *1) formalisation* and *2) territorialisation* — both of which, as I will show in the rest of this section, respectively derive from the dual axes of Assemblage by Deleuze and Guattari (1987), namely:

- form of content and form of expression; and
- (re)territorialisation and deterritorialisation.

I begin with a view that an Assemblage is a '*thing*' that makes something else functions (e.g. a creative hub). As I had mentioned, a creative hub (one thing) is a material form of a co-located space, where its inhabitants gather and collaborate to increase their social capital, exchange knowledge and experiences, experiment, and nurture their nascent companies. I argue that what makes this collective function the way it does is its

Assemblage (another thing), where "the assemblage is a virtual entity with actual effects" (Buchanan 2017). By suggesting "creative hubs as assemblages" (see section 1.2 in this thesis), I propose to think about creative hubs beyond their qualities at face value, but also in terms of the interrelations of elements that make them the way they are. By looking at creatives hubs as assemblages, and considering that Assemblage consists of a form of content and a form of expression *and* move along the territorialisation lines (Buchanan 2015; Deleuze and Guattari 1987; Deleuze and Parnet 1987), then my analysis of creative hubs focuses first on the relation of the form of content and form of expression.

3.2.1. Formalisation: A Dual-Process

Formalisation refers to a dual-process conducted by the *form of content* and the *form of expression* to organise or structure heterogeneous elements (Deleuze and Guattari 1987). "Form" here conveys a number of ways of being, such as structure, way of organising, conditions, and arrangement. "Form" is active, remains in flux and keeps making connections, rather than being static. As Deleuze and Guattari synthesise their concept of Assemblage, including the form of content and form of expression, from various readings including linguistics, I therefore first present the conceptual adaptation the formalisation from linguistics to give the background logic in my employment of Assemblage.

3.2.1.1. Background of Content and Expression

Deleuze and Guattari borrowed ideas of content and expression from the work of Louis Hjelmslev, a Danish linguist. They write: "Hjelmslev was able to weave a net out of the notions of *matter*, *content* and *expression*, *form* and *substance*" (Deleuze and Guattari 1987, p.43). Basically, Hjelmslev suggested the combination of two structuralist dichotomies: (i) *form* versus *substance,* and (ii) *content* versus *expression* (Bache 2010).

Deleuze and Guattari (1987) are interested in form (without substance) for both content and expression in Assemblage, but the combination of Hjelmslev's two dichotomies is supposed to result in four permutations: form of content, form of expression, content substance, and expression substance. Added to all this is a notion of pure or formless matter, or *purport* (in Hjelmslev's terms (1961, pp.50-54))**.** Table 4 (below) presents my integration of these concepts which I adopt from Taverniers' diagram (2011) and Schreel's table (2016) for a holistic view on their relations:

Table 4. Integration of Purport-Form-Substance and Content-Expression

	Purport (formless matter)	**Form**	**Substance (formed matter)**
Content plane	(Content-purport)	Form of Content	Content-substance
Expression plane	(Expression-purport)	Form of Expression	Expression-substance

Table 4 presents the combinations between purport (formless matter), form and substance as outlined against a content plane and an expression plane. The dashed line separates the content plane and the expression plane. The bolded box is the area where both forms meet and where the axis of formalisation (according to Deleuze and Guattari) comes from. Purport and substance are basically the same matter but different in their arrangement. In purport, matter is not arranged or not organised or not yet structured; in substance, it is the opposite.

To explain the logic of content and expression and how all the six 'themes' (in Table 4) exist in their actual relations, I use the example of colour vocabulary from Hjelmslev as an illustration. First, *the content plane*. According to Hjelmslev (1961), in the content-purport (material) exists all the potentiality of colour matter that is not yet categorised. The form then structures or makes a system so that there is a "colour zone or the morpheme zone" (p.53) — form of content — but without the content

substance/meaning yet. Then, the formless matter moves (or manifests) through that colour zone and resides as "green", "blue", "grey" and "brown" in English. Yet, the formation of content, and subsequently substance of content, occurs differently in Welsh,[12] where green is "*gwyrrd*" or "*glas*", blue is "*glas*", grey is "*glas*" or "*llwyd*", and brown is "*llwyd*" (pp.52-53) — they have a different structure or organisation. Thus, the form of content (colour zone) in Welsh is different from the form of content (colour zone) in English. Next, *the expression plane*. Hjelmslev argues that "the vocalic continuum and the median profile of the roof of the mouth, are then the phonetic zones of purport" (pp.55-56). They are formed differently in different languages, as is in Welsh and in English. Therefore, the phonetic zone or sound (form of expression) of colour for the Welsh and the English are different.

This example shows that the "form" is active and has a primacy over the substance. The state of affairs on the different meaning and pronunciation of colours in both Welsh and English happened because of the form of content (morpheme zone) and the form of expression (phonetic zone). In other words, the substance (wording/vocabulary and vocal pronunciation) is the result or effect from the processes or actions in the form. Deleuze and Guattari (1987) notice this activeness of the form that it 'casts its net' to catch formless substance in matter/purport. Moreover, they emphasise the primacy of form: "There is a primacy of the machinic assemblage of bodies [form of content] over tools and goods, a primacy of the collective assemblage of enunciation [form of expression] over language and words." (Deleuze and Guattari 1987, p.90). These two processes by form of content and form of expression (double articulation), or I would say two formalisations, are the two features loosely adapted by Deleuze and Guattari in their theory of Assemblage.

3.2.1.2. Form of Content and Form of Expression in Deleuze and Guattari

Returning to Deleuze and Guattari's theory of Assemblage, this section elaborates on my application of the form of content and form of expression as a dual-process in employing Assemblage as an analytical framework. As explained in the previous section, Assemblage takes formalisation as consisting of form of content and form of expression along one of its "axis" (Deleuze and Guattari 1987, p.88). Following Hjelmslev, Deleuze and Guattari assert a primacy of form over substance so that the focus of formalisation is on the form or system/structure.

However, having considered that the form of content and expression can freely move in their planes (both the content plane and expression plane — as explained in section 3.2.1.1), the adaptation from Hjelmslev must be followed by an elaboration of their interrelation, their intersection and their aim/function. Therefore, in applying this lens of formalisation (and thereby analysing the interplay in the space of the in-between) to my empirical findings, I will use the following conceptualisations specifically in relation to my study of the creative hub, as derived from Deleuze and Guattari's Assemblage:

1) *two parallel formalisations;*

2) *reciprocal presupposition;* and

3) *formalised function*.

I now elaborate on each in turn.

(1) Two Parallel Formalisations

The first conceptualisation, "two parallel formalisations" (Deleuze and Guattari 1987, p.68), refers to the analysis of the form of content and form of expression. Besides

using these two forms of Assemblage, Deleuze and Guattari (1987) interchangeably use two phrases — *machinic assemblage of bodies* and *collective assemblage of enunciations* — to describe the parallel mechanisms of formalisation in the plane of content and plane of expression. Parallel here means that while two processes operate (independently) in their respective planes, nevertheless they (ought to) meet or intersect at a point. As they state, "there are two distinct[13] formalizations in reciprocal presupposition and constituting a double-pincer[14]" (Deleuze and Guattari 1987, p.67).

The first parallel mechanism of formalisation refers to the "machinic assemblage of bodies, of actions and passions, an intermingling of bodies reacting to one and another" (Deleuze and Guattari 1987, p.88) as the process in the *content* plane that is organised by form of content. In view of the primacy of form, I take this mechanism of formalisation to refer to organising or structuring or arranging things or bodies or actions in a specific situation or setting. With respect to the "machinic assemblage of bodies", it "relates not to the production of goods but rather to a precise state of intermingling of bodies in a society" (p.90). Two examples may serve as illustrations. The first example is how the feudal Assemblage of man-horse-stirrup — i.e., a man on a horse with his feet in the animal's stirrups — work together through their machinic configuration — specifically, through the form of content in that feudal Assemblage that is able to arrange these bodies to work together. Form of content does not only arrange them, but it also requires and 'selects' bodies to enter the feudal Assemblage (pp.89-90). Moreover, as Deleuze and Guattari (1987, pp.66-67) and Deleuze (1987, pp.31-33) himself have shown in the prison example (mentioned in section 2.2.3), prison-form as the form of content arranges or structures, and 'selects' bodies or actions, such that prison-form acts as the condition for the configuration of the different elements in the prison. Therefore, I take this analysis of

the intermingling of bodies to mean analysing the intermingling of those bodies under a set of specific conditions in a specific actual setting.

The second parallel mechanism refers to the "collective assemblage of enunciations, of acts and statements, of incorporeal transformations attributed to bodies" (Deleuze and Guattari 1987, p.88) as the process in the *expression* plane that is organised by form of expression. It "relates not to a productivity of language but to regimes of signs, to a machine of expression whose variables determine the usage of language elements" (p.90). This determination means that, given a specific setting, the collective assemblage of enunciations orchestrates terms, words and their meaning to resonate in a similar rhythm. Therefore, I take this analysis of the collective assemblage of enunciations in relation to creative hubs to mean analysing the ways terms, words, and their meaning (in short, expressions) are configured. The analysis then includes disentangling the ways of organising (the regime of signs or semiotic system) that condition the expressions used in a specific setting.

To recap these two configurations: Assemblage acknowledges the primacy of form over substance, where "there is a primacy of the machinic assemblage of bodies over tools and goods, a primacy of the collective assemblage of enunciations over language and words" (Deleuze and Guattari 1987, p.90). The two mechanisms of formalisation explained above demonstrate this primacy. Additionally, there is *incorporeal transformation* in the form of expression that Deleuze and Guattari borrow from the Stoic idea about language, which I will now explain in relation to my second point.

(2) Reciprocal Presupposition

The second conceptualisation, "reciprocal presupposition" (Deleuze and Guattari 1987, p.67), refers to the analysis of the relationship between form of content and form of expression through analysing the intersection or unstable equilibrium of the two forms and the incorporeal transformation of the form of expression. Following the two parallel mechanisms of formalisations, Deleuze and Guattari (1987) write that "an assemblage [form of content and form of expression] has neither base nor superstructure, neither deep structure nor superficial structure" (p.90). These two forms seem to be independent because they exist in different planes but they actually need each other in order to establish an Assemblage — as explained in Table 4 above and via the colour example as taken from Hjelmslev. The formation of these two forms (content and expression) reflects the relation between the two formalisations in which they are parallel and, at a specific moment, intersect. However, their intersection is open to change. The two forms are thus in the state of "unstable equilibrium" (Deleuze and Guattari 1987, p.67) because they both have their own formalisation mechanism that actively makes connection.

When these two forms (of content and expression) intersect or reach that unstable equilibrium, a new configuration happens. For example, referring again to Table 4 above, when the form of content and form of expression of colour meet in the Welsh context, they create a vocabulary of colours and the way to articulate that vocabulary. Moreover, following the double-pincer illustration from Deleuze and Guattari (1967, pp. 39-41), an Assemblage requires (presupposes) the form of content and form of expression to meet (reciprocal). In other words, these two forms are the reciprocal forms. As a result, there is a production of a new happening when the two forms of Assemblage intersect. Therefore, in applying Assemblage analysis through this reciprocal relation, one should be involved in the "generative" analysis rather than the "descriptive" (Buchanan 2017,

p.468). Or, more specifically, “analysing the state of things [e.g., finding the state of reciprocal presupposition in the creative hubs], in such a way that non-pre-existent concepts can be extracted from them” (Deleuze and Parnet 1987, p.vii).

Besides this intersection in the reciprocal presupposition, there is also a special relation between the two forms of content and expression. This special relation means that the form of expression has the transformational ability for *incorporeal transformation*. This relation is special because it reinforces the reciprocality of the two forms; one can identify the equilibrium once the incorporeal transformation is identified. Also, incorporeal transformation of form of expression gives a performative aspect to the bodies of the form of content — the physical body remains the same but the social status has changed. Two examples, both as already mentioned earlier in this thesis, demonstrating this transformation are:

- in a prison Assemblage, ‘delinquency’ as the form of expression changes the status of people as prisoners (Deleuze and Guattari 1987; Deleuze 1988);
- the symbolic accolade as conquerors of Mount Everest changes the status of the people who can reach its summit (Buchanan 2015).

This aspect of incorporeal transformation (as part of the form of expression) reinforces the unstable equilibrium or intersection reached by the two forms (of content and expression). What this aspect means is that, to analyse the form of expression, including the reciprocal presupposition, the form of expression makes the configuration of bodies seem “justified and more importantly legitimated” (Buchanan 2017, p.473).

(3) Formalised Function

The third conceptualisation, formalised function, refers to the function of an Assemblage. As described by Deleuze (1988, p.33), “form here [i.e., form of the

Assemblage] can have two meanings: it forms or organizes matter; or it forms or finalizes functions and gives them aims". I have explained the 'first meaning' of form or formalisation in relation to forming or organising matter with respect to the two parallel mechanisms of formalisations; now, I will explain "the formalized[15] function" (Deleuze 1998, p.33).

This function is resulted (formalised) through abstract machines which "consist of unformed matters and nonformal functions" (Deleuze and Guattari 1987, p.511). Deleuze (1998), in demonstrating how the formalised function works, gives examples, such as where:

- punishment is a formalised function for the prison;
- care is a formalised function for the hospital;
- education is a formalised function for the school;
- training is a formalised function of the barracks; and
- enforced work is a formalised function of the workshop.

At the same time, besides giving an aim, these formalised functions also set a limit of an Assemblage. Setting a limit here refers to the sense that a formalised function (e.g., education) gives an aim to the form of content and form of expression to operate and to make connection with other bodies, whereby that new connection subsequently produces new practices (e.g., new practices in the school). However, the formalised function does not make the Assemblage operate through enforced work (which is a function for another Assemblage). This limit is very fluid, but the elements involved know how far they can (or want to) operate and borrow other practices. For example, "the school-form owed not a little to the strategies of containment implemented in the prison" (Massumi 2002, p.xix). Moreover, all these formalised functions, although they exist in different settings,

correspond to one another because there is pure matter and pure function (Deleuze 1998, pp. 33-35) where 'pure' here does not mean essence or a static totality, but unformed matters and nonformal functions — like purport (formless matter) in Table 4 above. Therefore, since formalisation (of expression and content) implies the casting of a net to catch pure matter, then, following the same formalisation logic, formalised functions are the results from that 'net casting' of pure matter.

(4) Summary

In summary, using formalisation to analyse creative hubs means looking at the empirical findings through:

(i) two parallel formalisations (configuration of bodies by form of content and arrangement of enunciations/expressions by form of expression),

(ii) reciprocal presupposition relation (intersection/unstable equilibrium and incorporeal transformation), and

(iii) formalised function (it gives an aim and sets a limit of an Assemblage).

I will apply these conceptualisations to each case study (i.e., different models of the hub) to provide a new way of looking at creative hubs that is able to open up possibilities and to capture the Assemblage of creative hubs where Assemblage here does not refer to an essence that should be remained as static but, rather, a multiplicity, or potential, that is experiencing movement that tends to reside in a territory. However, the multiplicity of an Assemblage does not represent an accumulation of all the possibilities; just like Deleuze and Guattari's (1987) account of multiplicity of the rhizome is that it is not like: "a multiple derived from the One or to which One is added (n + 1)" (p.21). Hence, different practicalities of the creative hubs do not work like as if they are 'derived' from the Assemblage of creative hub. Rather, these variations of creative hubs happens because of

the changing dimensions in the multiplicity of Assemblage. Those changing dimensions require the idea of movement (territorialisation) of the form of content and expression, to which I now turn.

3.2.2. Territorialisation: A Dual-Movement

The second analytical concept of Assemblage, then, is territorialisation. In this application, I will use *transformational movement* as drawn from (re)territorialisation and deterritorialisation (Deleuze and Guattari 1987). For Deleuze and Guattari, *"every assemblage is basically territorial"* (p.503), and being territorial here refers to the territory in the space of the *in-between*. Although an Assemblage might eventually have a physical or actual territory, but the concern here is of the *virtual* or liminal territory. Therefore, territorialisation implies the movement of the form of content and form of expression of an Assemblage to arrive at the territory through a "mutational dissemination" (Massumi 2002, p.xx) from 'pure' or formless matter.

As described above in 3.2.1.1 ("Background of Content and Expression"), the formation movement relates to the movement of Assemblage from purport to substance. Again, back to the example on colour (Hjelmslev 1961), the movement or territorialisation of semantic colour matter happens in the content plane and the movement of phonetic colour matter happens in the expression plane. When Assemblage (form of content and form of expression) captures and contains the colour matter and then moves to the substance, it then temporarily resides in English. English then has its colour vocabulary, meaning and pronunciation. Assemblage can then be unlocked and de-territorialised back to the unformed matter (purport) and can be re-territorialised in Welsh. Welsh then has its colour vocabulary, meaning and pronunciation.

Therefore, transformational movement involves two territorial movements:

(i) "reterritorialized sides, which stabilise [Assemblage]", and

(ii) "cutting edges of deterritorialization, which carry [Assemblage] away" (Deleuze and Guattari 1987, p.88).

Accordingly, (de)territorialisation relates to (de)stabilisation in the following two ways. Firstly, re/territorialisation stabilises the Assemblage. Stabilisation here is the tendency of form of content and form of expression to lock one another (unstable equilibrium) or reside in a specific context. When the formation is intact, so is the substance. Secondly (and conversely), if the formation experiences de-stabilisation, then it means the Assemblage experiences deterritorialisation that carry the two forms away.

However, an Assemblage always persists in its existence. Therefore, the de-territorialising forms have the tendency to return to the equilibrium/reciprocal presupposition (Buchanan 2017). Deleuze and Guattari (1987) use the term "line of flight" to represent the movement of carrying away the Assemblage (deterritorialisation), and "line of segmentarity" to refer to the movement of giving form and residing in a specific context (re/territorialisation).

Moreover, specific to deterritorialisation, there are two general processes: *relative deterritorialisation* and *absolute deterritorialisation*. *Relative deterritorialisation* is the movement of Assemblage out of its territory, but because it is influenced by reterritorialisation, the Assemblage can reside in a territory again. *Absolute deterritorialisation* refers to the movement of Assemblage towards *formless matter* or *purport*. This movement of Assemblage (form of content and form of expression) is not influenced by reterritorialisation, and dismantles the Assemblage to stay in the plane of consistency.

To briefly sum up this dual-process and dual-movement: in essence, formalisation relates to the casting and structuring of the unformed matter by form, and territorialisation relates to the transformational movement of that form.

3.2.3. Why Assemblage?

The last question in this section, then, is: *why Assemblage?* I have three reasons for employing Assemblage to scrutinise my empirical findings. Firstly, I chose Assemblage because it can provide a 'meta-analysis', or, more precisely, *virtual*-analysis of the empirical analysis. By *virtual*-analysis, I refer to the synthesis of the conditions (i.e., the interplay of elements in the space of the *in-between*) that define the current state of affairs of the studied creative hubs and offering a 'higher level' or a holistic view of the interrelations their heterogeneous elements — something that my tools of empirical analysis alone has difficulty in grasping without such a theory/paradigm. For example, in analysing the formalised functions of creative hubs, I will be abstracting (or, *virtualising*) the formalised forms and function from each case study (i.e., different models of the hub) through their different practicalities.

Secondly, Assemblage can advance my study of creative hubs because its analytical nature concerns the potentiality rather than the actuality of the creative hubs. Potentiality here refers to the nature of flux-ness and becoming of the forms of Assemblage. The analytical nature of Assemblage, including the conceptualisations of formalisations (see Section 3.2.1.2, "Form of Content and Form of Expression in Deleuze and Guattari"), implies the active and creative/ transformative forces of the forms. Accordingly, I will analyse the creative hubs in terms of their state of things which "are neither unities nor totalities, but multiplicities" (Deleuze and Parnet 1987, p.vii). In short,

Assemblage is a useful tool for me to elicit an understanding of the interplay in the space of the *in-between* that defines the actual multiple interactions in creative hubs.

Finally, I choose Assemblage as my analytical framework, rather than the other related concepts (such as those described in Section 2.2.2, Assemblage and Related Concepts), because of the nature of my Assemblage-oriented research question. Instead of only describing the interrelations of different elements (e.g., human, non-human, technology, facilities, conversations, discourses and ideas) in creative hubs, I also explain the fundamental cause of their interrelations, namely, via the structure of their Assemblage. Thus, Assemblage can help me to understand the structure of the space of the *in-between* while, and at the same time, examining how that structure actually manifests in the different contexts of creative hubs.

3.3. Ethical Considerations

I received ethics approval for conducting the field studies for this thesis. I provided a participant information sheet (Appendix A) and consent form (Appendix B) to each participant before I started my data collection for them. After obtaining consent from the participants agreed, I started my data collection. For anonymity reasons, I anonymised the identities of the study participants, including the identities of the studied hubs, in this thesis and other related publications, by using two letters with a number to identify these participants.

CHAPTER 4

"More than just Space": Understanding Creative Hubs using Assemblage

"We have created something more than co-working space" (HM1)
"It has to be more than just space" (HM2)

4.1. Introduction

In the literature review, I established from previous studies that creative hubs have key processual qualities which relate to social capital, knowledge exchange, experimentation and incubation, and showed their importance for startup founders beyond their co-location of different elements. I also argued that these importance and qualities can be seen as something that resulted from the relations of the heterogeneous elements in creative hubs. I then started this project with a 'broader' overview of three co-located hubs in the United Kingdom where I did my PhD study. My aim for this first study was to establish an initial understanding informed by Assemblage (Deleuze and Guattari 1987). Therefore, when I was doing my data collection, I kept in mind the aspects of the space of the in-between. In saying that, I used interviews and participant observation for such purpose. Furthermore, the kind of support offered is a spatial co-located based such as working space, communal space, networking, accesses and other collaborative activities with no specific timeline. This means hub members can independently come in and move out at agreed time. Eventually, I managed to get the data that I was looking for though my examination of the relational aspects in three creative hubs.

To understand these relations of different elements, in this chapter, I begin my study of creative hubs by framing the hubs' relational aspects through the lens of Assemblage. By "relational aspects", I refer to aspects of *the in-between* that define the experience of working and the interactions in a hub, such as:

- informal talk;
- shared enjoyment of activities;
- different intensities of hybrid social-work interaction;
- the aesthetic of the building; and
- the presence of various human elements.

My inquiry of relational aspects here is a vital starting point to my central research question because this inquiry can explain the mechanisms of the interactions of heterogeneous elements, and at the same time, can suggest the Assemblage that works in the space of the *in-between* that defines these interactions.

I aim to show that these relational aspects together make a creative hub more than just a co-located working space. Most importantly, I aim to frame these aspects as those that are *things in the in-between* and to perceive them in their actuality and in action, an approach informed by how an Assemblage works like a rhizome: *"proceeding from the middle, through the middle, coming and going rather than starting and finishing"* (Deleuze and Guattari 1987, p.25). This chapter, based on my first empirical field study, thus focuses on *a thematic understanding* of the relational aspects that are, if not the most important, then among the most important qualities in creative hubs. Primarily, as the chapter title "more than just space" — a phrase that was, as demonstrated by the chapter's opening quotes, twice said to me during my fieldwork — suggests, this chapter reflects specifically on how the formalisation of bodies and actions, and the formalisation of

expressions, work in the creative hubs. This phrase does not only convey my motivation to build an understanding beyond co-location in a creative hub and the processes/activities it contains, it also, as I will argue, fundamentally acts as the intangible aspect or underlying force that defines a creative hub.

To conduct this study, I undertook ethnographic field work by observing the workings of three creative hubs in the United Kingdom from September to December 2016, and interviewing staff who manage the hub as well as staff members of the hub tenants. I then organised the collected data using thematic analysis, out of which six themes emerged:

1) Working in small teams was a necessity, but also valuable;

2) Neutrality of hubs was important and enforced through their funding model;

3) Infrastructure was valuable in supporting relational aspects;

4) Activities and events brought and catalysed effective collaboration;

5) Experience sharing related more to business than technical knowledge; and

6) Community values are important and may need to be enforced to preserve a supportive atmosphere.

In the rest of this chapter, I first elaborate on my methods (in section 4.2), and then present my findings (in section 4.3). In section 4.4, I analyse these findings using the concept of Assemblage (Deleuze and Guattari 1987), specifically via the two axes of Assemblage that I have identified (in section 3.2) as formalisation and territorialisation. Through this analysis via Assemblage, I argue that the themes of the relational aspects can be seen as the condition for the creative hubs to co-function the way they are observed. Moreover, in this chapter, I establish that the Assemblage of creative hubs works by provisionally support the provisional. I conclude (in section 4.5) by re-stating

the main points and bridging across to my next inquiry on how Assemblage works in an intensive hub.

4.2. Method of the Field Study

The first study is a field study of three creative hubs in the United Kingdom (UK) using interview and observation methods. This study involved site visits and on-site interviews in order to capture those first-hand data from September – December 2016.

4.2.1. Sites, Participants and Recruitment

I started this multi-site field study by first identifying appropriate creative hubs from a list provided by TechCity, Nesta and the British Council (TechCityUK 2016). I approached the management of these hubs and requested access to study them. Of ten hubs contacted, I received approval from three, which were located in three different cities across the United Kingdom. Each of these hubs operates in a specialised field with a collection of startup companies. The hubs included in this study are (as identified by codes to maintain anonymity):

- **CH1** – A franchised hub (i.e. which benefits from an identity and collateral from a larger brand) that focuses on supporting data-driven startups. CH1 provides members with services including support for startups; access to meet-up events and a co-working space; and opportunities to participate in innovation projects. CH1 operates as a co-located space and also employs some virtual tools to support interactions between members. I conducted ten observations and six interviews with staff from hub management and tenant members.
- **CH2** – A hub comprising of a large number of tech startups (nearly 80 companies). CH2 operates as a software incubator for technological companies in different sectors,

such as Fin-Tech (financial technology), Med-Tech (medical technology), analytics, games, SaaS (software as a service) products, and cloud solutions. CH2 also provides services and resources such as office, co-working and event space; shared access to meet-up event and training from consultants; and networking opportunities with investors. I conducted three observations and three interviews with staff from hub management and tenant members.

- **CH3** – A university-based creative hub that provides knowledge and early support to students and graduates with tech and non-tech startups. Support provided by CH3 includes organising events and competitions; facilitating networking with professionals; mentoring; and providing office space. I conducted four observations and one interview with the hub management.

Recruitment of interview participants began during informal conversations with hub members during periods of observational work. A subset of those spoken to were selected for interview, with the aim of gaining a range of perspectives from hub members employed in different roles, including those from hub management, sponsors, startup employees, attendees at hub-organised events, project leaders, and workshop leaders. All participants were informed that their identity and the identity of the hub they were part of would be anonymised in the analysis and all forms of dissemination.

4.2.2. Data Collection and Analysis

I made seventeen observations (one-two hours each) in total during attendance at activities in the hubs' regular programs, such as training sessions, meet-ups, courses and seminars, and all-day hackathons. Field notes and audio recordings were taken during observations, with prior knowledge of these notes and recordings given to and consent obtained from participants. The aim of these observations was to document common

practices or activities that might have been taken for granted by hub members and, as a result, may not be mentioned in interviews but would nonetheless be definitive to a hub's value and experience.

Ten interviews were conducted (lasting between 15-45 minutes) in total. Interviews were held at a time convenient for the participant, and took place in an informal setting. Interview participation was voluntary and audio recorded with the prior permission of the subject. The topics discussed centred on each participant's interactions within the hub, e.g., with mentors, with members of their team, and with members from other organisations. I also asked how the participants perceived the effect of other resources, such as facilities, ideas, and activities, on their interactions in the hub. When reporting my findings, I identify the role of interview participants with the following codes:

- CW – User of Co-Working Space;
- EP – Event Participant;
- HM – Hub Management;
- PM – Project Manager at Hub;
- SP – Sponsor; and
- SU – Startup Member

The data gathered during the study was analysed using a thematic approach, following guidelines set out by Braun and Clarke (2006) that provide a basic principle of the analytical tool. An inductive method was followed, with transcripts of interviews and field notes first open-coded to highlight initial themes in the data, which were then iteratively refined in relation to the research question.

In building the themes from the collected data, I applied thematic analysis due to its 'freedom' from any pre-existing theoretical framework (though that does not mean thematic analysis cannot work well with a specific theoretical framework (i.e. Assemblage)). In finding the themes of the hubs' relational aspects, I categorised the commonalities across my data, and then I identified the elements or bodies and their relations. Moreover, as my findings were to be informed by Assemblage, I built the themes by considering the relations of heterogeneous elements in creative hubs. Thus, my theme building aligns with my intention to examine the relational aspects in its actuality and then to reflect on such aspects through the lens of Assemblage.

4.3. Findings: "More Than Just Space"

I use the subtitle "more than just space", a phrase said to me in my fieldwork, to reflect the bigger agenda that frames my understanding of creative hubs in terms of understanding the aspects of *the in-between* that define the interactions and experience of working in a hub. On the one hand, I argue that the themes of the hubs' relational aspects illustrate a range of findings that together make a creative hub more than just a physical co-located working space. On the other hand, the findings also reflect the expression of "more than just space" that binds together the conversations, ideas and discourses regarding support provided by creative hubs.

As mentioned above, I identified the bodies in the creative hubs and their interconnectivity (as configured in Figure 1 below). Then, based on this configuration, I categorised the relational aspects of creative hubs that resulted from the interview and observation analysis into six key themes (repeated here for ease of reference):

1) Working in small teams was a necessity, but also valuable;

2) Neutrality of hubs was important, and enforced through their funding model;

3) Infrastructure was valuable in supporting relational aspects;

4) Activities and events brought and catalysed effective collaboration;

5) Experience sharing related more to business than technical knowledge; and

6) Community values are important and may need to be enforced to preserve a supportive atmosphere.

These themes capture the efforts of the elements in the creative hubs to provide services, focusing on nurturing and developing the startups and other tenants.

Although these themes look like they are individually different, my underlying treatment of the configuration of bodies relies heavily on the interconnectivity among the bodies. As seen in Figure 1 (below), the three nodes (Hub, Team and Infrastructure) are connected with the three lines in orange, black and blue (respectively, AE – Activities and Events, ES – Experience Sharing, and CO – Community Values). The outer green perimeters surrounding each node represents the qualities of that specific node (e.g., smallness of the team, and the value of their smallness; neutrality of the hub through funding model; and supportive value of the infrastructure, etc).

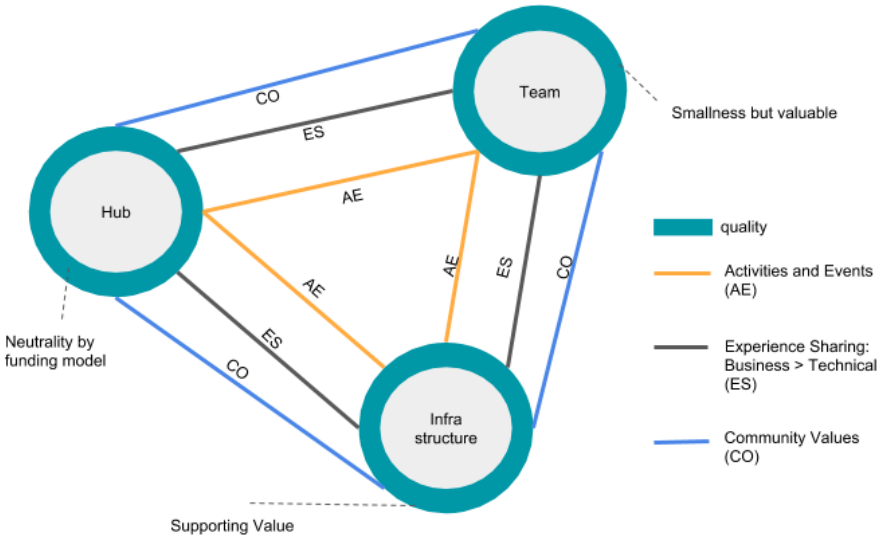


Figure 1. Relational Aspects from the Six Themes of "More than just Space"

However, this actual configuration of nodes-lines does not mean that their relational aspects are the lines in between the nodes. Instead of only seeing the lines (AE, ES, and CO) that connects the nodes (hub, team, and infrastructure) as relational aspects, rather, I look at both the nodes *and* the lines as the relational aspects in the hubs. This view is consistent with my intention, as already stated, to frame the relational aspects as those operative in the space of the *in-between*. In doing so, I view these nodes not just as a material/physical entity but also as bodies through their intangible or non-physical aspects, such as their values, properties, ethos — in short, their qualities (as symbolised by the green perimeter). Accordingly, the lines are also (perceived as) bodies so that they too have their own qualities. Therefore, my understanding/use of "relational aspects" in the ensuing analysis correspond with the relations of the qualities of the bodies (of both nodes and lines, per Figure 1).

The challenge then is to present this *things in the in-between* in my empirical field study. To address this, I present the title of my themes with greater elaboration to capture a configuration of bodies either in their actions or in their processual sense. Moreover, I use this way of presenting my themes to describe a body in a specific circumstance or condition *and*, at the same time, its relationship with other bodies. For instance, the idea for the theme regarding the team is not that of a "small team" but that "working in a small team was a necessity, but also valuable"; or, regarding activities and events (AE) is not just "activities and events" but "activities and events that brought and catalysed collaboration". Although a theme focuses on one body, it also includes the interactions with other bodies. Below is my elaboration of the six themes.

4.3.1. Working in Small Teams was a Necessity, but also Valuable

One commonality observed across the hubs studied was the importance of the *"scrappy"*[16] way that hub elements connected with each other. I use the term "scrappy" in this context to refer to a way of working influenced by, on the one hand, the need for teams to be small, often due to the resource constraints facing startups; and, on the other hand, the need to complete the plethora of tasks required for the successful development of a product and business. Thus, "scrappy" here describes a small team that looks incomplete in number but capable of doing a lot of tasks. As examples of this need to be "scrappy", members of a startup [SU2] in CH2 that consisted of less than six people expressed the need for smart decisions in resource expenditure, and to keep their operation efficient with a small team. Startups in CH1 also employed small teams in the early stages of their development for pragmatic reasons: "*we have the skills and capabilities within the team and, financially, it wasn't realistic for us to employ* [more] *people*" [SU3].

While the scrappy way that startup teams operated in the creative hubs studied was in many ways a product of necessity, it was also viewed as having a positive impact on the way collaborations were formed within the hub space. Retaining a small team was said to make startups and tenants appear open, flexible and, therefore, inviting for collaborations with other hub elements. The observed hubs' members and teams commonly operated by keeping only core skills needed in-house, and drawing on others in the hub space for additional skills. During observations of the hackathon events in CH1, this approach was seen to be particularly valuable by the hub's team and tenants in opening up opportunities for collaboration with others in the hub (e.g. to fill skills gaps in small teams through reciprocal expertise sharing) and, consequently, bringing new ideas and perspectives from the community to address challenges.

The smallness of startups also necessitated the sharing of office space to save money. For example, one co-worker noted that office space was essential, but "*I don't want a full office because that's going to cost a lot more mone*y." [CW1]. The hubs in my study made this possible by providing co-working and office space for small startups and individuals. During my observations in CH1 and CH2, they provided hourly-based, daily-based and monthly-based space renting. Co-working spaces were not only valued for their cost amongst hub members, but also for providing a community of like-minded people to work within. "*I could rent somewhere else, but, given I am working in tech and there is a lot of tech companies here, this is the place to be*" [CW1].

The hubs also supported the smallness of startups in a number of additional ways. Hubs were said to provide a sense of security for members of small precarious startups, because it was common for staff of failing companies to be quickly re-hired by the businesses around them. HM2 described an example of what happens when a startup nearly fails: "*It* [Failure] *happens in different ways but what we always see, the great talents in the companies they get sucked up by other companies in the building, they all ended up working for other companies in the building*" [HM2]. As a consequence of this support mechanism, many of the people who worked in the hubs felt like community members of the hub rather than of the companies they work for. CH1 also supported the smallness of teams by providing nascent startups with a brand that is bigger than their own. This meant that they could remain small, while benefitting from the 'big-ness' of the hub: "*being backed or part of the* [hub] *provides validation and credibility for both business model and, in general, the company*" [PM1].

The hub management teams also employed similarly small management teams working in scrappy ways to run their creative hubs and facilitate collaboration amongst hub networks [HM1, HM2, and HM3]. For instance, HM3 had a dual role to manage the

operation and to provide early support for the founders of startups: *"The vast majority of my role is organising, kind of programs and events, and getting people along to be part of a panel, making people come along…* [and] *also working to find opportunities, and then, to support individuals on the one-to-one basis."* By employing a small team, the manager of CH2 noted that operating in a similarly small team enabled a sense of empathy with hub members when performing these tasks: *"We are a scrappy startup here ourselves, the companies in here respect the fact that we are going through some of the same pains as them"* [HM2].

4.3.2. Neutrality of Hubs was Important, and Enforced through their Funding Model

Hub members and management felt that it was important that creative hubs were independent and neutral spaces. The perception of a hub not being owned or in any other way controlled or dominated by one single viewpoint and/or agency was viewed as essential for its success by participants: *"If it's owned by either one of them* [public sector or sponsors] *they [hub members] would find it hard to collaborate. So being independent and neutral is really important."* [HM1]

However, maintaining a hub's neutrality was reported as being a challenge, as the range of stakeholders that startups needed to interact with to achieve their goals could each bring potentially divergent agendas. As explained by HM1, *"Anyone [who] came with problems or challenge, we and [the] extended community could do something about it"*, and therefore "*to make that happen, you can't be conflicted by anyone of those parts of the supply chain or value chain".* Actively configuring and negotiating the relationship between different agendas, such that everyone could have their say and receive what they need, was recognised as a crucial part of a hub organisational team's role.

While valuing the neutrality of the hub space, participants also noted the importance of a culture in which companies retained strong and well-defined 'personas'. HM1 explained themselves as such: *"So, it is not the government, it is not the university, it is not the council, it's not official [government-agency], it's independent which means people will come and voluntarily [involved]. So, we are neutral which [is] really important"*. Moreover, HM1 added, *"we are non-profit, it removes the barriers, so that more people get involved, but we have to be commercial because we are not funded."* Maintaining and presenting this identity and territory as a 'neutral' space operating as a non-profit entity, while remaining respectful to the identities and territories of others, was viewed as crucial to establishing productive links between hub members. The management of CH1 applied this by "*being as open as possible and letting other people tell us what they want us to be"* and by being "*transparent, ...share everything"* with the hope that *"people know that we share everything, and we would tell them everything that we will do"* [HM1]. A culture of transparency, wherein every company and team member involved should be upfront and open about what they do without anyone seeking to push their agendas on anyone else, was seen as the best way to achieve this goal.

The culture of openness and transparency amongst hub members was also seen to be supported through events run within the hub space, which allowed hub members to share their expertise and information. These included informal meet-ups and socials, training from consultants or groups of people with particular expertise, and hackathons. A participant at such an event in CH1 expressed that the open and transparent culture of events at that hub was supported by its focus on open data: "*by its nature, the topics we are discussing are about being open and about sharing information, and so, I think it automatically attracts people who want to be involved* [in that way]" [EP1]. Conversely, the management of CH2 described a case where participation in a series of events run by

an external party had decreased because it was not perceived as aligning with the hub's neutral culture: "*they were fundamentally selling their things. And when we first started we'd see 30 people go to this talk, and then 20, and 15, and then in the end, people realised they were, like, being sold to.*" [HM2]

Finally, the bootstrapping approach through which CH2 funded their operation was identified as a key constituent of the independence of that space. "*We have no money from the government or city council, we are entirely bootstrapped*, *we make our money through renting the place out*" [HM2]. To "bootstrap" refers to an approach to financing a company through private funds or revenues received, rather than through external help or capital. By funding themselves in this way, the management of CH2 felt they were able to strengthen their 'persona' as a neutral space, because they weren't subject to unwanted influence from the agenda of one dominant funder. A tenant noticed this when asked about the hub's bootstrapping approach: "*the culture [of growing the hub] in* [CH2] *is very clear*", where "*they* [CH2 hub] *have grown organically* [by bootstrapping]*, which is what you're trying to do, what* [our] *startup is trying to do*" [CW1]. Similarly, in CH1, *"we knew we have to be neutral"* [HM1]. The hubs realised they are startups as well: *"we were startup ourselves, and we still are"*, and thus they relied on multiple revenue streams to sustain the way they operate, such as *"space hire"*, *"sponsorship"*, and running *"project"* [HM1]. Sharing this finance model with members, and the relative independence it afforded, was said by the tenants and hub management to contribute to maintaining the neutrality of the space.

4.3.3. Infrastructure was Valuable in Supporting Relational Aspects

This theme identifies the value of infrastructure (i.e., physical infrastructure such as buildings and facilities, including communal and event spaces, coffee places, play

areas; and digital infrastructure such as websites, social media, and group communication channels) in supporting an interconnected hub ecosystem where each element plays a particular role in supporting the system.

The intimacy of the hub ecosystem was reported by the manager of CH2 as an important element; it is also potentially threatened by expansion. The form of interactions between hub members was said to noticeably change when the layout of the building, facilities and infrastructure were reconfigured to accommodate more people. For example, HM2 realised there was a time when the expansion of the space by adding floors hampered interactions between members: "*We had the second floor, and we noticed that there are two ecosystems, and then [plus] the third floor, that was like three ecosystems, and no one talked to each other"*. HM2 continues: "*it was really worrying for a while, we were just like, has the expansion damaged it in some way.*" The management team quickly observed this change and reconfigured the space to address the situation. As a result, a communal space was developed: "*We took this space here, so that there is a big communal area, people come and hang out, event space is just there, co-working here as well.*" [HM2] While quickly resolved through action by the management team in this case, this finding demonstrates how important the form and configuration of physical elements of creative hubs are to creating a positive working and interacting environment, in addition to the human-elements.

The importance of a hub's infrastructure was also observed to relate to the physical layout of the building. CH1 had their event space (which was a meeting space in a classroom setting, with a set of visual aids at the front side facing the rows of chairs, though the room setting can be changed depending on the event organisers' needs) and working space (which were rooms with long tables and chairs) on the same floor, with no walls to separate the two spaces. In contrast, CH2 had separate blocks for office space,

communal area, and event space. This configuration meant CH2 could conduct events without stopping other activities like co-working and meetings, something that CH1 could not do in parallel. This physical layout also emphasises the value of infrastructure, in which the layout (or arrangement of rooms/building's space) influenced the interactions of the elements in a hub.

In terms of physical facilities, both CH1 and CH2 provided a coffee corner or café for members of and visitors to the hub. Configuration of these tangible facilities were likewise acknowledged to be significant for relationship maintenance: "*when I wanted to get coffee, there were a couple of people there playing table tennis [in the communal area]. So, I had a chat to them, just said hi, and how is it going, that kind of thing, it just keeps a relationship open*" [CW1]. In the observation, the presence of non-work-related infrastructure, such as a table-tennis table, allowed members to form and build relationships by playing games together, as did interactions at workplace wellness activities such as fitness events and massages organised by the hub.

The hubs' digital infrastructure also helped to maintain relationships among the members of the hubs and to expand their activity. In my observations of their routine updates and engagement, I observed that the website and social media of the hub [CH1, CH2, and CH3] offered a space to present its management team and hub members' activities and to reach larger audiences. For example, CH1 posted updates on their activities and calls for participation in events on their website because people read them, commented and came to an event. Internally, hubs and their members commonly used online communication and collaboration channels like Google groups or Slack to maintain communication [HM2, PM1]. The existence of open and free digital tools was also used to extend the accessibility of CH1's services to serve startups across countries. As PM1 described: "*We use emails, chat, hangouts, we use Google forms, Google docs,*

sheets. We have a mailing list if we have to push out information, but for interaction it would be Slack" [PM1].

4.3.4. Activities and Events Brought and Catalysed Effective Collaboration

CH1 and CH2 were not just co-working spaces, but organised lots of events that brought together their members with their extended networks and catalysed effective collaboration. During my observation, there were activities and events such as hackathons, a range of informal events (for instance, social Friday events, and physical exercises), meet-ups, training, courses and seminars. During these events, hub members came together with other participants who were not members of the hub (e.g. including experts, sponsors and members of other companies in the region) to collaborate, for example, around shared challenges, such as in a hackathon. For instance, in CH1, hackathons were organised to solve problems encountered in collaborative projects: "*the most important thing is creating spaces for people to convene around the problem, for a hackathon and as well as doing their work. So, everything else that goes around this place is as important as the project delivery*" [HM1].

Collaboration in these events happened at every stage of the project from planning to delivery. For example, in CH1, the challenges set at such events (i.e., hackathon) did not come from the hub team, but were provided by the hub's sponsors and then released to the hub's network. First, these challenges were formulated by the sponsor and communicated through the hub's website which then, following responses, discussions, and meetings with the hub's network, eventually led to the formulation of a final challenge based on the priority of the sponsor. Later, during the 48-hour hackathon, which I observed, the participants (coming from different expertise and work backgrounds)

proposed their idea to address the challenge, formed groups and worked together in their group. The groups then came up with proposed solutions such as a working prototype of apps, a working plan of a new service with technology and an Internet of Things technology, and presented their results at the end of the event. Moreover, this degree of collaboration, as can be seen in the collectivity of people who are keen to solve problems, became one of the reasons for the involvement of the sponsor: "*We help to fund this place… that's what this place does, it takes challenges, and people coming up with solutions*" [SP1].

Another example of how events afforded collaboration was seen in more informal settings, in which fostering casual relationships between hub members and others could lead to work-related collaboration. For example, CH2 held social events on Fridays that allowed startup members to, among others, play table tennis, share drinks and eat pizza and, while doing so, informally share information and plan collaborative work. As another example, HM2 recalled that a member of one of the startups invited other hub members: *"Hey, does anyone here want to play table tennis on Friday night? Bring your drink."* HM2 continued, *"And that [the Friday night table tennis session] was like 30 people, 40 people just chatting"*. Eventually, the casual conversation turned to a collaborative conversation: *"and they weren't necessarily chatting about work, but when their conversations came out, they said oh you are in data visualisation, oh cool, well, we are doing stuff with machine learning around data visualisation, so let's meet up"* [HM2]. Activities such as casual conversation thus became a starting point for the hub members and others to start collaborative work.

4.3.5. Experience Sharing Related More to Business than Technical Knowledge

The relationships founded through interactions between those present in hubs were valued in terms of experience sharing, particularly from more established startups (i.e., those with more experience) to new startups (i.e., those with less experience). New startups were said to benefit from access to experience and tacit knowledge from more established startups occupying their office space because the latter had learned lessons from progressing further down a similar path to the one that the former were taking, or, as one participant expressed, because of a "*shared understanding about the problems* [we're facing]" [CW1]. This kind of tacit, informal, ad-hoc knowledge sharing — "*Sometimes we use the phrase trickle-down mentorship*" [HM2] — was seen to be more beneficial than more formal sharing of experience, such as through training courses: *"There are courses and advice you can get out there"* [HM2]. The management of CH2 realised the value of these more informal, tacit knowledge sharing mechanisms and sought to foster them: "*If they can talk to a company in here, it's like people just ahead of them. If we can get companies talking to companies, they'll each support each other"* [HM2].

From the data collected, the experience and knowledge sharing provided to startups within the hubs studied were primarily focused on business aspects of their operations rather than technical knowledge. For example, for startups in their early stages and for those scaling up, the support required related to *"validating assumptions and scalability: how do you scale, how do you build a team, how do you put together a sales strategy"* [PM1]. The reason for this focus was because it was acknowledged that the kinds of companies present in the hubs studied would be more proficient with the technical, rather than business, aspects of their work: *"We only work with tech companies,*

but actually we [did] support more to the business side because a lot of them are bootstrapping so they have technical experts in the team" [PM1]. While technical expertise was acknowledged as being available in the hub, assistance was often provided by the hub management to enable the right knowledge to be found amongst the hub's network: "*Basically, we need to find a partner who can actually help us to realise what we are trying to do. I said to* [the hub management] *... we need some introductions to find someone who can help us to develop this*" [SU1].

Experience sharing in managing startups mostly took place in arranged online and face-to-face activities which were often designed to meet particular people's needs. For instance, in CH2 a group communication channel was setup for the C-level group (e.g. CEOs, CTOs, COOs) that enabled them to ask "*high level questions,* [such as] *I need to do R&D tech credits or something like that,*" and for "*something quite practical, and they will get 15 or 20 responses from people who have done it before.*" [HM2].

4.3.6. Community Values are Important and May Need to be Enforced to Preserve a Supportive Atmosphere

The management of CH2 stressed the importance of the "intangible" qualities of working within creative hubs, which, in turn, had tangible benefits for their members. The manager of CH2 expressed this by saying *"a place like this is about the intangibles that can have a tangible effect on your business*" [HM2]. The use of the phrase "the intangibles that can have a tangible effect" reflects a general recognition that creative hubs were more than just spaces to work in, but, rather, the relations brought about by these spaces, while sometimes subtle and ineffable, led to very clear benefits (for example, sharing knowledge, received a sponsorship for an event, and in a case of failure, got recruited by

another company in a hub). We use the term "supportive atmosphere" to convey this array of benefits.

Community values (for example, respecting each other and having shared experiences) were a key aspect of the supportive atmosphere of hubs. In CH2, the community values of the hub members acted as a driving force to the hub management team to keep them providing support for the startups. "*It's really more about the community value that's the thing that excited us, providing companies with access to the mentorship that they require, professional services they require, investment access, creating a culture where people are supportive.*" [HM2] A tenant who had been there since the establishment of CH1 also mentioned community values: "*it's [community value is] more that people are working on similar things. So, you got shared experiences. It is kind of there already, you just bring it out.*" [CW1] That is to say, this shared value (respecting others) is something vital and realised by both the intrinsic qualities of the community and the efforts of the hub management to support and enrich it.

The importance of these community values led the hub management team to develop and publicly communicate a set of rules for hub members to establish and maintain them, which would underpin the state of relations between members and others who interact with the hub, as can be seen in the last rule of three rules publicly announced by the CH2 management:

(i) they were only interested in technological companies;

(ii) they should have talents with a specific skill; and

(iii) they very strictly expect a set of attitudes of respecting each other.

The manager of CH2 spoke about how the motivation for developing such a formalisation of community values was driven by past undesirable experiences, in which people who

had not behaved in a way fitting with the hub's values had been viewed as having a negative impact on the space. For example, *"Someone got through, and they seemed really nice and great, and then before you know, they are taking out their frustration on other people in the building. It is not always that easy to spot one."* [HM2] In response to this, the hub team decided to conduct interviews with prospective members before allowing them to join the space. These interviews were described as an assessment of *"good fit to the community",* which took place during a series of meetings: "*Quite often to get space here, we have three meetings.* [We] *try to suss them out and see what they're thinking, if they are a good fit for our community."* [HM2].

4.4. Creative Hubs as Assemblages

Although the findings above highlight a range of distinct thematic qualities that describe the relational aspects in the creative hubs featured in the study, they also indicate that hubs are complex and interrelated systems that cannot be understood in terms of their individual parts, but, rather, must be considered in holistic and inter-connected terms. For example, consider the value observed in the smallness of teams in the hub. Working in small, sometimes interdependent, teams was seen to be conducive to knowledge and experience sharing. Yet, gaining this sharing benefit was also dependent on the culture of transparency and neutrality that came about from a relation of funding models, rules developed and prescribed by the hub members and management, and relationship building during events (many of which were conversely dependent on the smallness of the teams in the way they functioned).

Accordingly, I look at my themes above in an integrated way to get a sense of the process or conditioning that governs the interconnectivity in my actual findings. I thus argue that this holistic interrelation signifies a *thing* that keeps them working together and

defines the interactions in creative hubs; it is a *thing* that has the ability to pass through heterogeneous elements and to structure them to perform a particular function. Thus, I start from the space of the *in-between* in the Assemblage (virtual entity) to map the formalisation of content and of expression (in Section 4.4.1) before proceeding to analyse the movement of the forms in territorialisation analysis (Section 4.4.2).

Furthermore, by scrutinising this state of affairs through the form of content and form of expression (under formalisation), I argue that creative hubs have a particular working arrangement that allows them *to provisionally support the provisional*. I also argue that these creative hubs should not be viewed as non-static entities but, rather, as in-progress entities that are constantly being made, remade and can potentially de-made.

4.4.1. Formalisation (content and expression)

The elements of an Assemblage configure and co-function to constitute "what is said and what is done" (Deleuze and Guattari 1987). In turn, I propose to map this articulation of "what is said and what is done" onto my central articulation of the creative hub (and its interactions) as "more than just space". On the one hand, the phrase *"more than just space"*, as the form of expression of "what is said", structures the themes of collaborative effort and neutrality, the idea of community values and a supportive environment, and a shared understanding, in one coherent declaration. I thus echo the need to understand the rhetoric, identities, and values that are entangled in communities (Toombs 2017), while at the same time I would also like to take into account the hubs' material/tangible configuration. On the other hand, "what is done" is the configuration of bodies and actions so that a creative hub is indeed more than just a working-space for the startups and the associated inhabitants (form of content). Working in small teams, as also reflected in the composition of hubs' and startups' teams, have shaped the hubs to provide

support in the form of office space, credibility boost and collaboration that suitable for the small teams. Moreover, we can see that activities and events welcomed by the hubs are those that particularly encourage the involvement of the hubs' stakeholders.

In light of this articulation of creative hubs as "more than just space", I now turn to discuss formalisation in relation to the hub per the three analytical devices as discussed in my methodological chapter:

(i) configuration of bodies (two parallel formalisations);

(ii) co-functioning (reciprocal presupposition); and

(iii) formalised function.

4.4.1.1. Configuration of Bodies: Two Parallel Formalisations

As discussed in Chapter 3, the configuration of bodies in Assemblage refers to the mechanisms of two formalisations:

(i) *machinic assemblage of bodies* organised by the form of content; and

(ii) *collective assemblage of enunciations* organised by the form of expression.

I will explain the two parallel formalisations in turn with respect to the creative hubs studied in this chapter.

(1) Machinic assemblage of bodies

Firstly, as an Assemblage is "made up of many heterogeneous terms" and "establishes relations between them" (Deleuze and Parnet 1987), I frame this machinic Assemblage of bodies as the organisation and structuring of bodies organised by the form of content (defined earlier in the Methodology chapter). In order to make a creative hub

more than just a co-working space, three elements — *human elements-activities-infrastructure* — must be particularly organised by that form of content. A team is not (automatically) free to function in events; those events and the willingness and ability for a team to take part are caused by the relation between hub members and the function of the hub and its infrastructure. For example, a Friday event is a productive realisation of the collaborative relation of the three abovementioned elements: human elements (startup team and hub team), activity (a Friday event) and infrastructure (communal space, amenities and coffee shop). A small startup team observed the routines of other startups and told the hub team about conducting an event; the hub team listened to this idea which they strongly supported for a community-based approach free from a hidden agenda. As this collaborative initiation is supported by the supportive nature of the office-café-game infrastructure, then a Friday event can take place at the creative hub. This configuration of events can happen because of how the elements are connected by their collaborative relations. Hence, relations are there, existent in between bodies, but we can also say that they are passively waiting for realisation (Buchanan 1997).

Thus, the observed qualities of bodies from my themes identified above — for example, the smallness of a team, the neutrality of the creative hubs, and the value of infrastructure — are not determined by the essence (an eternal defining quality) of an element, but by their relations to each other. Conceptually, these relations are thus *affective relations*, where "affect", as explained by Massumi, is intensity (Massumi 1995) and a capacity to affect or be affected; or in this case, is a capacity that a body has to form specific relations (Buchanan 1997). Affects are not the product of bodies; they are the means by which bodies are empowered to act (Swift 2012). In the case of the creative hubs, one of the capacities (affect) is the capacity to engage or be engaged in the events, and this affect circulates the team body, the hub body and the infrastructure body. These

bodies are then the affected bodies, and they are connected by their affective relations. Accordingly, when a body is co-functioning with another body, it means an affect in that body is forming the (affective) relation with an affect from another body. I use affective relations above to introduce the *virtual* mechanism or 'working method' of bodies or elements in the space of the in-between, such as multiplicity and multi-connectivity/rhizomatic.

This *virtual* 'working method' can be translated to, for example, relations that configure the quality of the elements. The qualities themselves do not just come about because of the configuration of the hub; rather, they have to be enacted by relations. The configured quality in a body makes connections with other bodies, and subsequently this relational process allows for consequence or effect. The communities do not gain their qualities because of the way they are configured, but they gain them through people's active participation in the context of those qualities, i.e., people 'doing communities'. A similar case would be a hackerspace, which relies on care and on community involvement and engagement (Toombs, Bardzell, and Bardzell 2015). Another example of the conditioning by the relational aspects is how the collaborative relation of human-activities-infrastructure (as seen in the fourth theme in section 4.3.4) fostered the growth of the casual event at one of the creative hubs; or the experience sharing relation of human-activities-infrastructure (as seen in the fifth theme in section 4.3.5) which led to the trickle-down mentorship and support mechanisms; or the community relation of human-activities-infrastructure (as seen in the sixth theme in section 4.3.6) which brought out the community values and rules. Therefore, we can see these activities, events, mechanisms and rules as a consequence of a relational process.

Now, for the *form of content*, I frame this side of Assemblage as formalisation of the relations of human elements, activities and infrastructure (machinic assemblage of

bodies) in creative hubs. This formalisation of relations that flows through things/bodies does entail a 'requirement' of which bodies that are fitted to which other bodies. In other words, "[it is] the machinic assemblage that determines what is a technical element at a given moment, what is its usage, extension, comprehension, etc" (Deleuze and Guattari 1987, p.398). Here, I have to clarify here that my usage of the terms "require", "select" and "attract" is only for the purpose of explaining the mechanisms of Assemblage.[17] The six themes (of relational aspects) which I view as conditions of the interactions in creative hubs are not essences — not just because they are not literally singular, but because those themes have heterogeneous terms and established relations between bodies. Working in small teams, neutrality of hubs through funding models, supportive infrastructure, activities and events that catalysed collaboration, experience sharing related more to business knowledge, and maintaining community values for supportive atmosphere are a set of conditions that are in a harmony with the form of content of creative hubs (i.e., an 'urge' or force to make the creative hub more than just a co-working space). This 'urge' attracts human elements to co-locate in a physical space and conduct a range of activities. It does not only arrange them (activities, human elements and infrastructure) in such a way so that they have a multiplicity in their configuration (as I explained above in different settings), it does also require which human elements, activities, and infrastructure to be configured.

An example of this selectiveness of the form of content is at the informal Friday night event. Instead of an event (activity element) that is run by an external party — which initially attracted the hub members but had a decreasing participation because it was not perceived as aligning with the hub's neutral culture — the formalisation of making the place as more than just a working space has caused the bottom-up Friday night event to be more compatible to the working arrangement in that hub. In other words, the inference

that creative hubs do not want external parties to run an event is not applicable because this selective process is specific to the working arrangement at this hub and to this particular relational configuration. Also, in practice, the informal event or activity can be of any kind of activity as long as it is 'fitted' to the hub's relational configuration (the machinic assemblage and relational aspects) — it does not work like merely replicating the Friday night event in other hubs. Therefore, form of content (or, creative hub form) is like a *virtual* entity that has reached a saturated state with the ability to require, select and organise the bodies to make the creative hub more than just a co-working space.

(2) Collective assemblage of enunciations

Secondly, by thinking about creative hubs as Assemblages, I also look at the other parallel formalisation: the formalisation of expression or, the collective assemblage of enunciations. I frame my analysis around this formalisation of expression, or what Deleuze and Guattari (1987) called "regime of signs" (p.66 & p.111), by acknowledging that "there is form of expression without signs"[18] (p.67). I thus argue that *"more than just space"* as the form of expression organises the expressions which arose from the studied creative hubs and which are related to the idea of creative hub. Before explaining the process in this plane, I wish to clarify first the italicised version of *"more than just space"*. I use this way of emphasising (as italicised with double quotation marks) to denote the becoming of this form of expression, or, in other words, an expression without signs. It does not work like a representation or projection (essence/mental image) such that the actual expression should only be exactly "more than just space". Rather, this emphasised version amplifies the *potentiality* or the *multiplicity* of this 'mental image'. Therefore, this mechanism of formalisation has the similar *virtual* 'working method' (i.e., multiplicity and multi-connectivity/rhizomatic) in requiring and organising the words, ideas, statements, and discourses (I categorise them all as "expressions"). Also, as

discussed in Chapter 3, this form of expression is able to bring an incorporeal transformation to the material/content elements, whereby the physical bodies remain the same but the status changed.

I begin this form of expression analysis through the organising or structuring capability of the form of expression by looking at it *("more than just space"*) as an 'urge' or desire for expressions. I translated this mechanism of Assemblage as a set of supportive expressions that aims to exceed the usual expectations out of just renting the space. Some examples from my study are:

- "[This hub is] really more about the community value, that's the thing that excited us" [HM2];
- "The most important thing is creating spaces for people to convene around the problem" [HM1];
- "That's what this place does, it takes challenges, and people coming up with solutions" [SP1]; and
- "Being backed or part of the [hub] provides validation and credibility for both business model and, in general, the company" [PM1].

The word-by-word orders and its resulting meaning from the four examples above send different key points such as community value, collaborative space and benefitting from the 'big-ness' of the hub. Thus, the Assemblage-related question is: what makes those expressions variously articulated by the hub organisers? I argue that it is the organisers' shared-desire of *"more than just space"* that arranges and structures the words and the resulted key messages so that the said expressions correspond with each other. In other words, by paraphrasing Hjelmslev (1961), those raw material of expressions are 'captured' by the net of "*more than just space"*.

This deterministic force of the *"more than just space"* is also observable through expressions in the scholarships as related to creative hubs. For example:

- creative hubs as "places that provide a space for work, participation and consumption" (Dovey et al. 2016);
- creative hubs as "a convenor, providing space and support for networking, business development and community engagement within the creative, cultural and tech sectors" (Matheson and Easson 2015); and
- creative hubs promote "connection between entrepreneurs, small and medium sized businesses in creative sector and where links and knowledge co-creation happen" (Shiach et al. 2017).

These examples strengthened the position of *"more than just space"* as the form of expression of the Assemblage of creative hubs rather than another candidate such as, for instance, *"one-stop-for-all place"*. My argument here is *"more than just space"* has a deterministic force as surplus so that, in the actual expression, the connections made with other raw expression elements might sound like "space and ... and ...". Conversely, *"one-stop-for-all place"* might have the same deterministic force but it conveys a meaning of lack in its actual expressions; thus, the pattern of expression might be like "any kind of support but …". This argument does not mean that creative hubs management cannot have an big aim, or, more specifically, should avoid expressions that conveys their ambition. On the contrary, they should. Through this analysis, I argue that such expressions by the organisers (and, by the broader hub members) when organised by *"more than just space"* would be more coherent instead of by *"one-stop-for-all place"* that would bring a sense of being over-promised. In short, "*more than just space"* provides a sense of becoming; it does not define a 'final state' of a set of expressions

regarding a creative hub but it does define the in-between-ness or 'temporariness' of a creative hub.

My last point on this formalisation on the expression side is the incorporeal transformation of *"more than just space"*. The 'temporariness' of a creative hub articulated in the studied hubs such as, for instance, "we were startup ourselves, and we still are" [HM1] and "we are a scrappy startup here ourselves" [HM2], raises the question: why do people want to be involved in this 'temporary' form (creative hub)? As a reply, we can note that this situation relates to the performative aspect of this form of expression. *"More than just space"* transforms the bodies in the creative hubs with particular attributes. It frames the status of the humans-activities-infrastructure to have something more than regular working space, as seen, for example, from my themes:

- the hub management is not just letting the space but more like a 'nurturer',
- the activity is not like regular transfer knowledge activity but like a 'catalysed' one, and
- the infrastructure is not only like common office space with cubical but like a 'creative' space.

In short, *"more than just space"* frames the creative hub as a 'lively' space. 'Lively' space in this context refers to a working space with, for example, the variations of sponsors involved (bearing influential names); of events held (hackathons, informal Friday night); of projects delivered by the hub itself; and of a community-based approach instead of just a regular working space. *"More than just space"* thus entails a creative hub for being 'lively' that manifests through actual benefits of providing "space and …". Thus, this form of expression sets an expectation and achievement for the bodies (or, we can say, it frames the bodies), where, for example, a successful startup that 'graduated'

from the hub will be a highlighted success story because the hub does not only provide space but other kinds of support in nurturing that startup.

Thus far, I have explained the two formalisations respectively on the content and expression plane. Yet, these two forms also ought to 'lock' at some point as an Assemblage. Each process (machinic assemblage of bodies or collective assemblage of enunciations) has its heterogeneous elements and relations that animate them so that each form/process is a multiplicity. *Creative hub-form* (form of content) is a multiplicity of relations that attracts, selects and organises different bodies (i.e., human elements, infrastructure, and activities) to make numerous configurations. Similarly, "*more than just space"* (form of expression) provides a sense of becoming (multiplicity) that:

(i) arranges and structures the words, implied key messages, and

(ii) sets an expectation and achievement for the bodies — namely, the incorporeal transformation or performative aspect.

Next, as a bridge to the next subsection, when these two configurations link with each other they form an Assemblage, as Deleuze and Guattari (1987) describe, by way of *"multiplicities of multiplicities forming a single assemblage"* (p.34). Therefore, in the next subsection, I will complete my formalisation analysis with its remaining two conceptualisations: *reciprocal presupposition* and *formalised function*.

4.4.1.2. Co-Functioning: Reciprocal Presupposition

As described above, we have argued the studied creative hubs as Assemblages, where the form of content is an in-between space of work-share-play (creative hub form) and the form of expression is the discourse, idea development and expectations on collaboration, sharing and sustaining etc. that happen there. The form of a creative hub exists because of the working arrangement of the facilities like office space, co-working,

event space and supporting infrastructures such as flexibility of the layout, digital infrastructure and amenities. Arrangements of knowledge/experience and cost sharing also contribute to this creative hub form. As seen in the findings, there are formal collaborations (workshops, talks, meet-ups, and hackathons), informal collaborations (small talks in communal areas and online groups), skills sharing, and indirectly office cost-sharing with other startups. Another element that contributes to this creative hub form is play in the sense of games (table tennis and other non-work - relaxing activities) and experimentation. Such experimentation can be seen in, e.g., "brief intensive colocation" (Trainer et al. 2016) activities such as hackathons and other tinkering activities. The form of content relates to the expressions observed in the study, as it affects the encouragement of collaboration and sharing, the values and neutrality of the environment, meaningful support and knowledge sharing etc.

Yet, as in Assemblage, the form of content does not simply *lead to* the form of expression in a one-way relationship, and vice-versa. Rather, there is a reciprocal relationship where content and expression come into existence together (e.g. inhabitants' willingness to play games together and the existence of shared values are likely to be co-dependent and to develop, in dialogue, over an extended period of time).

A manifestation of these two formalisations can be seen like this: instead of going to a fancier or more formal space, startups decide to go to an 'in-between' space of work-play-learn to interact with like-minded people (form of content) in the belief of the affordability of that space, the previous success stories of tenants, and the collaboration and supportive environment they will get by co-locating in that space (form of expression). This contingent equilibrium and reciprocal demand between both forms keeps the Assemblage (creative hub) intact, and in turn, attracts more people to the space. Nonetheless, it can also be de-stabilised if there is either a new physical/material element

(e.g. expansion of the building or a new form of co-location space) or new expression (e.g. where one starts to worry about the neutrality). The current Assemblage will then be about reconfiguring its formation, where the elements will remodel the current forms, to the point where the startup founders find another alternative.

4.4.1.3. Formalised Function

Having determined the forms of these creative hubs and their co-function in a reciprocal presupposition, I argue that the "formalised function" (Deleuze 1988) of this Assemblage is to *provisionally support the provisional*. The creative hubs are provisional entities in which they independently strive to maintain their operation. They provide a range of support but those forms of support are subject to change because of the expansion of infrastructures, the individual and collective condition of startups, the affordability of the space, and/or the reputation and credibility perceived by their extended network. Regarding the provisionality of the startups and tenants, the hubs efficiently maintain their operation, especially with respect to early stage startups which are surrounded by uncertainties. One of the issues in the growing attractiveness of creative industries is precariousness, such as the precarious state of media entrepreneurs (N. S. Cohen 2015). Within this growing concern, creative hubs now have the momentum to strengthen their position in the creative industries because they can have a certain degree of pliability to facilitate the development, interaction, and mitigation of the failing down of their precarious/provisional members. Moreover, creative hubs' status as provisional entities could 'force' or 'affect' the hub management to act with various plans, offered services etc, in which all of them are subject to change.

Regarding the pliability in achieving this formalised function, there are also limits for this Assemblage to work in. For example, "working in small teams" that flows in the

space of the *in-between* of the bodies organises them to be able to interact together under this condition of 'small-ness'. Once a startup has grown bigger and has a larger number of team members, it is able to rent more space in a hub. Instead of just thinking in terms of multiplying or scaling up so that a hub can just expand their space or prioritising one over others, Assemblage enables us to see that there are other conditions in play such as neutrality of the hub by funding model, activities and events that catalysed collaboration, and inter-firm knowledge transfer. Thus, letting the potential 'big fish' move out from the hub is not only a matter of cost-benefit calculation, but a matter of the limit of an Assemblage. Besides, there is also a limit defined by the expression of *"more than just space"*. If a creative hub would like to accommodate the 'big fish', with the risk of homogenisation in the hub and losing all of those qualities with the resulting interactions, then we can start to think that the creative hub now functioning (or is defined) as an office-letting agent. This expression is also indeed a limit because it changes the nature/ definition of the creative hub.

4.4.2. Territorialisation (de/re-territorialisation)

Having understood these creative hubs as provisional and recently established entities, while this does not reduce their attractiveness to their members and extended networks, there is nevertheless a note of caution regarding their sustainability. Reliance on provisional entities such as nascent startups as well as the provisional relations with sponsors, event organisers, organisations and corporations, has placed these hubs in an 'intermediary' state of survival. They are under a state of constant awareness of the changing nature of the hub's configuration, of continuously striving to creatively invent ways to support their members, and of determining the hub's future. For example, if hubs did not have the awareness of events that had not catalysed effective collaboration (with

reference to the fourth theme in section 4.3.4: Activities and events brought and catalysed effective collaboration) or the expansion of infrastructure that had hampered hub members' interactions have made hub management take action (with reference to the third theme in section 4.3.3: Infrastructure was valuable in supporting relational aspects). Through the lens of Assemblage, I read this 'intermediary' state of survival and sustainability as the work of territorialisation. Apparently, this Assemblage of the creative hub prefers to stay in this territory of the 'intermediary', or, we can say, provisionality. Thus, in this section, I will further explain the creative hub Assemblage through another axis of Assemblage — (de)territorialisation. I propose two points of discussions here: firstly, on the formation of creative hubs; and secondly, on the transformational movements that bring different practices in creative hubs.

Firstly: the formation of the Assemblage of creative hubs corresponds with the transformational movement from institutional establishment to provisional arrangement. In the literature review (in section 2.1.2), I emphasised that co-location in the industrial district and cluster requires long term institutional arrangement because of the scale of people and businesses/firms involved. Accordingly, the arrangement of activities-humans-infrastructure in these kinds of co-location is like the arrangement of formal cooperation, big companies and larger scale of infrastructure. Yet, as I have shown so far in this study, configurations of these elements toward the provisional arrangement of creative hubs occurred. Thus, there is movement in terms of the arrangement of activities-humans-infrastructure; in other words, the bodies might be the same bodies but the Assemblage has changed.

This change is comparable with the example (from my theoretical perspective) of the man-horse-stirrup assemblage which moved from the farming ground to the battlefield; this movement has to be seen under the notion of flow from the 'Feudal'

Assemblage (de-territorialisation) to the 'Crusade' (re-territorialisation), hence, it has to be examined at the level of the movement (i.e., transformational movement) of the form of content and expression of an Assemblage (Deleuze and Parnet 1987, pp.72-73; Deleuze and Guattari 1987, pp.88-90). Therefore, the form of content and form of expression of creative hub formation has "a tendency to drift over time" (Massumi 2002) because of this dual-movement of de/reterritorialisation. What this way of thinking means to the current study is that the form of an in-between space of work-share-play with its whole array of actions (form of content) is not to transcendentally materialise, but, rather, it is to immanently migrate (be de-territorialised) from other forms of co-location/ localisation/ agglomeration such as the cluster and district. This migration or movement of the form of content does not totally transport the whole package of 'qualities' of a cluster or a district to the creative hub. On the contrary, there is a process of re-articulation, or, as Massumi (2002) describes "mutational dissemination".

Similarly, a set of expressions organised by *"more than just space"* is also subject to this territorial movement. During the fieldwork, hub management implied that they themselves are the parties who are providing the space to be rented; one hub management [HM2] even mentioned that they are "technically landlord" because they rent the place to their tenants but at the same time, implied that they just do not work like that, that there is something more than that ("we are not like landlords, it is not why we do this, it is about the companies" [HM2]). This expression indicates an effort to move away from a set of regime of signs associated with the conventional space-letting system to a new regime of signs, namely, *"more than just space"*. I argue that this new regime of signs is the new way of organising signs that captures the range of supportive expressions in creative hubs mentioned above (see section 4.4.1.1.(1). Collective assemblage of enunciations). My point here is this re-articulation from the landlord-tenant sign system

to *"more than just space"* has given us a concrete example of the process of deterritorialisation of the form of expression of the conventional space-letting system that is immediately followed by the process of reterritorialisation into the form of expression of the creative hubs.

Therefore, we can see that the form of content and form of expression of the Assemblage of creative hubs which operate in their own plane, come (or de-territorialise) from the different Assemblages and claim (or re-territorialise in) a territory in the space of the *in-between*. Form of expression *("more than just space"*) now temporarily resides and, most importantly, locks itself with the form of content of the creative hub. Together, they (form of content and form of expression with dual movement of re/territorialisation and deterritorialisation) dynamically operate a function of provisionally supporting the provisional. Thus, in order to perform this function, an Assemblage must have a territory, a territory that marked by the two forms (content and expression) and established by the dual movement of de/reterritorialisation.

Secondly, the transformational movement of territorialisation has created diverse practical applications to provide support for the hub members from one creative hub to another. Reflecting yet again on Hjelmslev (1961) regarding the movement of colour formation in English to Welsh as well as on Deleuze and Guattari (1987) regarding the movement of the man-horse-stirrup from the 'Feudal Assemblage' to the 'Crusade Assemblage', we can understand that one creative hub does not imitate or resemble another but, rather, there is a mutational dissemination (Massumi 2002) of the formation of the "*creative hub"* form of content and *"more than just space"* expression. A mutational dissemination or transformational movement with a preference of finding a territory has made the form of content and form of expression of this Assemblage to re-territorialise in the territories of:

(i) offering incubation-like support for only software startups [observed in CH1],

(ii) offering a set of innovative bodies, services and networks for the hub members [observed in CH2], and

(iii) offering educational entrepreneurship support for the aspiring founders [observed in CH3].

The transformational movement does not stop here; it can also bring the Assemblage of creative hub to the territory of different *kinds* of creative hubs — as I had mentioned in the literature review — with different configurations of bodies, different sets of relations and different sets of expressions. Above all, in this process of transformational movement, the forms (content and expression) and formalised function of creative hubs prefer to remain consistent to creatively support the startups and members to grow and expand.

Therefore, with this addition (via territorialisation analysis) to the way of thinking on the pliability of creative hubs, there would always be a situation where a hub decides to actually accommodate the 'big fish'. This seems very likely in the context of the precarious nature of the tenants, such that securing larger and more long-term contracts is a realistic decision for the hub. With territorialisation, on the one hand, we can read this new arrangement as an operation conducted by the line of flight or deterritorialisation to destabilise the formation and its function. In a case where a hub insists on accommodating the larger startup companies without considering the abovementioned conditions, the creative hub then moves toward the state of, as de Peuter, Cohen and Saraco (2017) argue in their critical analysis on co-working, being "commodified, increasingly corporatized and ultimately facilitates the flexibilization of labour" (p.689). The hub then faces

complexity in providing provisional ways to support the precarious entities because its working arrangement (i.e., provisional-ism) has changed. On the other hand, we can think of the process of reterritorialisation as the process that brings the Assemblage back to its current territory or to find another territory to operate. This fluidity means that accepting changes is something that creative hubs do, but on the basis of, to paraphrase Ian Buchanan (2017), the condition that make the heterogeneous elements co-locate together (in-between space of work-share-play) and the condition that organises the expressions (*"more than just space"*) so that the configured bodies seem right and proper.

4.5. Conclusion

In this chapter, I have demonstrated my application of the notion of Assemblage in analysing the interactions which described the relational aspects in creative hubs based on three empirical fieldwork studies in the United Kingdom. One challenge in applying this way of thinking on the 'in-between-ness' is to present this 'in-between-ness' in my empirical field study. I chose to frame my inquiry on the relational aspects in creative hubs so as to help me identify the themes of the *things in the in-between* where there is a sense of the continuous rather than the discrete. Therefore, my themes' formulation aimed to capture this structuring process in the hubs, which resulted in the six 'lengthy' themes first identified in 4.1. I prefer to keep them that way to maintain their actuality and impression as taken 'in-action'.

To analyse their aspects of in-between-ness, I employed Deleuze and Guattari's concept of Assemblage to map and integrate these aspects in a dynamic flow. As Assemblages, creative hubs contain the momentary formation of the *"creative hub"* form – with *"more than just space"* expression that has the function to provisionally support the provisional. Thus, instead of going to a fancier or more formal space, startups decide

to go to an ‘in-between’ space of work-play-learn to interact with like-minded people (form of content) in the belief of the affordability of that space, the previous success stories of tenants, and the collaboration and supportive environment they will get by co-locating at that space (form of expression). However, this reciprocal presupposition of the two forms is subject to change from the dual movement of de/re-territorialisation. On the one hand, each of the form has its historical development from other co-location forms and regime of signs. They experienced transformational movement with the tendency to find a ground in creative hubs. On the other hand, this dual movement brought diverse practical applications from one creative hub to another, as seen in the studied hubs where the transformational movement finds grounds in the territories of offering incubation-like support for only software startups, a set of innovative bodies and networks for the clients, and educational entrepreneurship support for aspiring founders.

In relation to this thesis as a whole, this chapter has launched my understanding of creative hubs in terms of their interactions – specifically, the interplay of heterogeneous elements in creative hubs. My approach to their in-between-ness, as informed by Deleuze and Guattari’s Assemblage, has brought my treatment on the thematic relational aspects as conditions that define the creative hubs. With the mission to provisionally support the provisional, creative hubs in their actual practice has variations that are marked by the forms (content and expression) and established by the transformational movement which ought to have a ground. To extend my understanding of creative hubs, I will study the conditions that make the intensive-cohort based hub (i.e., startup accelerator) to provisionally support nascent startup companies, to which we now turn in the next chapter.

CHAPTER 5

Accelerator Assemblage: Racing to the Demo Day or to get an Offer?

5.1. Introduction

Having studied the relational aspects of three different creative hubs in the UK and analysed them using Assemblage (Deleuze and Guattari 1987), this second field study proceeds to deliver an in-depth understanding of an emerging intensive hub. Rather than conducting another study of an incubator, a co-working space, and a university-based hub, I conducted an in-depth study of a startup accelerator (a hub with different setting) in Indonesia, in which I could have a higher chance to get access within a very limited time frame. I decided to use a different method that is ethnography study to follow the day-to-day routine because this startup accelerator used a batch or cohort approach to support a group of seeding-stage startups within 12 weeks. With my focus on only one hub, I could have a greater advantage in terms of getting the 'impromptu' of the actions and expressions and of refining the preliminary findings on the spot. This process means I could question practices, activities, discussions and expressions used that might have been taken for granted by the study participants. More importantly, I can use my data to gain further understanding about what the Assemblage in this hub is and how that Assemblage works to shape the intensive interactions in this accelerator.

An emerging intensive hub, such as the startup accelerator under study in this chapter, refers to a hub with a 3-month program containing a variety of activities and with less than 10 startups per cycle or cohort (hereafter startup accelerator). Such a startup

accelerator presents a different approach with regards to their participants, as contrasted with the previous studied hubs (namely, incubator, innovation space and training-consultation centre). The startup accelerator repetitively does the following:

- invest in the startups;
- organises them in following a three-month long scheduled programming; and
- subsequently have the startups move out from the hub.

The startup accelerator presents itself as a program that pops up once or twice a year; it is a temporary arrangement. My hypothesis is that the startup accelerator presents a different practicality and function from the creative hubs as established in Chapter 4 which, as discussed, is to provisionally support the provisional. As such, the specific agenda for this study is to first unravel the specific condition(s) under which this startup accelerator gains its importance in supporting the development of nascent technology startups. The second stage is to then relate this conditioning with my perspective of creative hubs as Assemblages.

This chapter thus aims to explore what I call the *accelerator Assemblage* that constitutes intensive interaction in a startup accelerator. My view of Assemblage is, as before, informed by Deleuze and Guattari (1987), but also strengthened by, firstly, Grosz (1994) in that an Assemblage is "*composed of lines, of movements, speeds, and intensities, rather than of things and their relations*" and, secondly, by Buchanan (2017) in that an Assemblage is "*a virtual entity with actual effects*". Applying this theoretical framework, I thus define the accelerator Assemblage as *an entity in the in-between* that actively (re)structures the heterogeneous elements in a startup accelerator, which I examine in its actual context via an ethnographic study of a particular startup accelerator. I argue that, as an Assemblage, the startup accelerator has form of content and form of expression,

reciprocal presupposition between the two forms and formalised function, and it experiences transformational movement. Therefore, this view places the accelerator Assemblage as the working arrangement or condition of intensive interactions in the studied startup accelerator.

This second field study begins with an ethnographic exploration of the recruited startup accelerator in Jakarta, Indonesia, in order to gain a bottom-up and first-hand insight of the interactions there. Specifically, my study revolves around their 12-week (3-month) programme. Subsequently, I organise and scrutinise the ethnographic data against two mechanisms of formalisation: the formalisation of content and formalisation of expression. I categorise the findings into three patterns:

(i) 12-week startup seeding,

(ii) racing to the Demo Day; and

(iii) *"Securing an offer? I can do as well"*.

The first pattern represents the intensive process in a seed accelerator; the second exemplifies what happens with the various elements in their course towards the end of the programme; and the third pattern signifies a range of expressions which proliferated regarding the accelerator. These three patterns emerge from a recursive analysis of the ethnography method (LeCompte and Schensul 2010).

In the third part of this chapter, as with the previous chapter's structure, I apply Assemblage forms and movement to analyse and discuss the data. In terms of analysis, previous studies on startup accelerators have differentiated the accelerator from other creative hub forms, such as the incubator (e.g. Isabelle 2013; S. Cohen and Hochberg 2014) and proposed the startup accelerator as a new generation of incubation model with "design elements" and "design themes" (Pauwels et al. 2016). However, they have not

analysed Assemblage with respect to any kind of hub. Therefore, in this chapter I use Assemblage analysis to reveal the organisation of heterogeneous elements (e.g. human, non-human, corporeal, and incorporeal) in the studied startup accelerator. This analysis will also inform us how the accelerator assemblage works through "in-between things" and experiences the dual processes of de/re-territorialisation. In the chapter's conclusion, I will relate this chapter's analysis with the previous chapter's, especially in terms of the seemingly different formation and formalised function of the Assemblages, as well as make a case for my next chapter.

5.2. Methodology

This second field study is an ethnographic study of a recruited startup accelerator that aims to provide an in-depth understanding of the relations of its different elements. The first study prompted further questions such as:

- How do the relations of different elements happen in a different model of the creative hub, such as a startup accelerator?
- What are the relational dynamics of startups, mentors and hub management? What cause these dynamics?
- Does this kind of intensive hub share a different working arrangement as compared to the previously studied hubs?

In short, I wish to know more about the conditions that make this intensive way of interconnectivity of bodies seem suitable for its hub members. I thus decided to immerse myself in the daily routine of the elements in the recruited startup accelerator so that I can gain a more detailed and contextual understanding of their interactions. In

applying this immersive approach, I faced two challenges common to this kind of in-depth field study:

i) getting an access to the startup accelerator; and

ii) comprehending the *language* of the startup accelerator and the broader social and cultural context of where the startup accelerator operates.

With a limited time frame for this research project, and with my knowledge that the accelerator was about to start another three-month cohort from January to March 2017, and also because of the higher chance of getting an access, I then decided to conduct this study in Jakarta, Indonesia.

I recruited the startup accelerator by first conducting an online search through Google with the keywords "incubator Indonesia" and "accelerator Indonesia." Following the search results, I visited each website and checked each of them for their recent activities and kinds of support offered. While a few were selected as appropriate candidates for study, I decided to focus on one particular startup accelerator as my intention is to gain an in-depth understanding of an intensive hub. Moreover, in a pre-field work visit to Jakarta in mid-2016 to approach the candidate, I had also attended the startup accelerator's Demo Day. This hub was established in 2015 as a joint program between an international Venture Capitalist (VC) and an Asia-based multinational corporation which provided the hub mentorship, funding and networking access. I contacted one of the management members and eventually, the program manager agreed to my conducting this ethnographic study of their second batch (cohort) of the acceleration program. I then proceeded to collect the data with the following three ethnographic data collection techniques (LeCompte and Schensul 2010):

(i) participant observation;

(ii) interviews; and

(iii) archival data collection.

I will now discuss each in turn.

5.2.1. Participant Observation

Data collection from participant observation was held from January to March 2017. I took a role as one of the staff members. I came into the hub within its working hours and attended events out of the normal working hours, and I was given access to their activities and archives. In the office of the accelerator, I used one of the working desks provided by the accelerator team. The hub management also introduced me to the startups and partners, and gave me full access to their events and meetings. They also gave me an official email account and included me in their online groups so that I could have as much information as I needed. I sat and took notes in mentorship sessions both in class format and one-on-one sessions in consultation with the startup team mentor. Besides observation during mentorship, I was also able to observe the informal interactions in the co-working areas and communal areas in the hub. Further, I attended networking events held in different places (outside the hub), and observed the interactions of startup teams, mentors, partners, investors, alumni and other invited guests and involved in the conversations. Approximately, I spent 300 hours on this participant observation.

In order to maintain my 'neutrality' and to avoid 'interrupting' the interactions at the startup accelerator, I was introduced by the hub management as a research student who is also helping the hub management to organise the current cohort. Thus, as part of the organising team, I attended classes, consultations and events. In particular, when the organisers could not fully attend the session, I was present to observe, take notes and

report back to the hub management. In short, I helped the hub management monitor and evaluate the acceleration cohort. To maintain my position as researcher, I gave updates to the hub management based on my observation notes because what I noted can be used for both my study and for the startup accelerator's management. However, that was not the case for my interview data because that is for my study's purpose only.

5.2.2. Interviews

In total, I conducted 20 interviews. I interviewed six of those 20 participants more than once. The interviews were a combination of individual and group interviews in both formal and informal settings. In the formal setting, I interviewed in a formal Q&A style in a room or space that is occupied only by me and the interviewee. In the informal setting, the interview took place in a discussion or casual setting, usually in co-working areas or other communal areas (e.g., lobby of a building, in the car and at networking events) where I offered a topic or question to the startup founders and co-founders and they gave their thoughts and related their experiences. I also discussed my observation notes of related activities or actions related to the topic of study with the participants to gain 'validation' and participants' voices of the findings. In discussing the findings, I use the following participant codes:

- HM: Hub Management;
- SU: Startup;
- SF: Startup founders and co-founders;
- ME: Mentors;
- VC: Venture Capital team; and
- SA: Startup Alumni.

5.2.3. Archival Data Collection

During data collection (in the second cohort of this startup accelerator), I had access to the first cohort's archival data such as the details of applicants, pitch decks of startups, their Demo Day videos and alumni contact. Moreover, I had gathered background knowledge because the team also shared non-archival information and experiences from the first batch program such as how the participants coped with deadlines and the running of their startups, and how hub management that consisted of only two people during the first batch managed to do a plethora of tasks. For the second cohort, as the group I studied, the team gave me access to their shared drive, shared calendar of events/meetings and mailing list of the current batch, and introduced me to the partner VC team. I also got permission to record their Demo Day.

One thing that evolved during the data collection period was increasing access to the VC. The VC managed the funding granted to the accelerator's startups and also invested in other startups outside the accelerator. The VC was also primarily involved in selecting the startups and was responsible for monitoring the progress of each startup. The VC occupied the same floor as the startup accelerator so as to maintain their access and ease coordination, and to keep the connection with the startups. This side-by-side office arrangement advanced my access to the VC and, eventually, I also observed the interactions of the VC team with the startups' and accelerator's teams. Initially, I did not specifically target the role of VC in my data collection, but after several encounters, I also interviewed them and observed their involvement.

In analysing the ethnographic data, I utilise ethnographic analysis techniques: data crunching; thick description; and emic and etic explanation. With respect to data crunching, this is the first stage in the production of results that involves reducing piles of data to a more manageable form which permits ethnographers to begin "telling a story"

about the focus of their research (LeCompte and Schensul 2013). One thing to be noticed here is that the process of analysing ethnographic data happens recursively: the analysis happens during the fieldwork, soon after the fieldwork, and after the fieldwork is complete (LeCompte and Schensul 2013). This data crunching then informs the making of thick description and the interpretation.

With respect to thick description, this is a tool to help an ethnographer to do a double-task, namely, "to uncover the conceptual structures that inform the subject, … and to construct a system of analysis" (Geertz 1973). In implementing this tool, I use one of the eleven types of thick description as identified by Denzin (2001): *the descriptive and interpretive description* that focuses on the biographical, the historical, the situational, the relational, and the interactional, and it describes the experience of the subject and records the interpretation that occurs within the experience of the subject.

With respect to emic (local) explanation, or "those presented by the people being studied" (LeCompte and Schensul 2013, p.17), I use these via examining patterns in the "crunched" data. Also, I use etic explanation, or "those generated by researchers or other outsiders" (p.17), through interpreting the patterns via theoretical framework(s) or disciplinary concept(s) which, in this study, is the Assemblage. Therefore, I inscribe the emic explanation into the thick description and apply the etic interpretation into the discussion on Assemblage.

5.3. Startup Accelerator: 12-week to Final Demo Day?

This section describes the empirical findings from studying the recruited startup accelerator in three patterns that represent the repetition of actions and thoughts from participants in different settings (repeated here for ease of reference):

(i) 12-week startup seeding;

(ii) racing to the Demo Day; and

(iii) the expressions regarding seed funding during the process.

In the process, I build a rich description based on these patterns.

5.3.1. 12-week Startup Seeding

> *We actually targeted startup that we thought were too early for stand-alone investment from our VC, but that was still really a [sic] rock solid. Startups that we were completely confident, but we thought they were too, just a tad bit too, early [for us] to bring [the startups] to the table [for investment], as far as introducing them to our investment community in Silicon Valley.*
> (VC2 Interview 2017).

In the pre-acceleration stage, which is four months before the kick-off to the start of the acceleration programme, the organiser of the startup accelerator [HM1, HM2] launched a call on their website for participants. Based on published information, the accelerator invited startup companies who have a proven product and/or a proven revenue stream, and have not secured a specific funding stage. They expected the applicants to have at least a Minimum Viable Product (MVP) that has been proven by market testing, or else that the applicant may have created a way to make revenue out of the product or service. One strict requirement was that any previous funding received should be below that of Series-A Funding (which, at the time of writing, is from USD 1 Million – USD 10 Million [VC2]). If a startup company got selected for the acceleration program, it will receive a three-month mentorship from national and international mentors, networking benefits and USD 50,000 funding. In other words, from the point of view of the given funding, this accelerator is also known as seed accelerator because it supports the startups in securing seed funding.

The accelerator, together with its venture capital (VC) partner, also went beyond seeking online applications. They opened a booth in startup-related events such as the

Tech in Asia and Echelon events in Jakarta and made personal approaches to potential startup companies. In a case where they have known a startup company or the people behind it, the VC partner also reached out to that startup through email or LinkedIn and asked for its pitch deck. They then arranged a meeting, where the founder or co-founders of the company pitched to the VC. The hub management decided to add these recruitment channels due to the variety of people's understandings of the startup stages; the fact that most of the previous batch applicants were still on the level of an idea or a very young company; and the small pool of potential candidates to be hand-picked. Having received a significant response from the previous batch from online application channel, the accelerator widened the channels of recruitment.

In this batch of the acceleration programme, 186 applicants in total applied through the different channels described above. Eventually, seven startups (3.78% acceptance rate) were selected by the VC team according to their assessment criteria such as the quality of the team, the traction, and the product. The seven selected startups were:

- SU1, a career portal for millennials and employer branding;
- SU2, an online booking website for fitness, salon and spa services;
- SU3, an on-ground and onboard entertainment streaming service;
- SU4, a customer management system platform for offline-retailers;
- SU5, an online booking for medical check-ups and blood tests;
- SU6, an online business administration and legal service provider; and
- SU7, a med-tech portable CTG device for pregnant women.

These seven startups, aside from running their day-to-day operations, had to participate in the acceleration programme (Figure 2 below) for the next 12 weeks. Therefore, from the participants' perspective, the process is intensive because of the time and activities

required and the dual responsibility of running the business and participating in the programme.

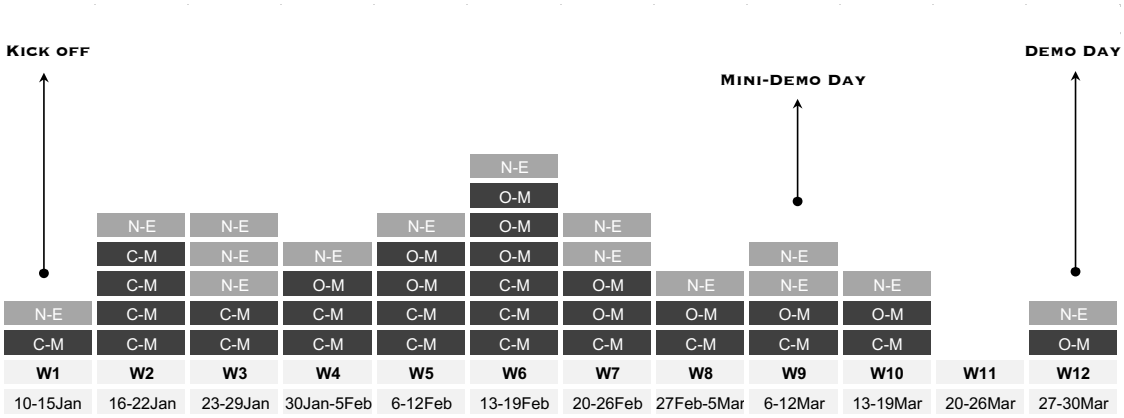


Figure 2. Infographic of the Acceleration Programme's Jan-Mar 2017 Timeline

The acceleration programme began on Tuesday, 10 January 2017 with a Kick-off Meeting and ended on Friday, 30 March 2017 with a Demo Day. During the 12-week programme, the organiser required the participants to attend pre-arranged class mentorship (C-M), one-on-one mentorship (O-M), and networking events (N-E), as ordered in Figure 2 above. In total, the programme had 18 mentorship classes and 12 one-on-one mentorships from different mentors, including Indonesian and international individuals, the accelerator's mentor, the venture capital's mentor, angel investors, financial, legal and public relation (PR) consultants, big companies, and government creative agencies. Of those sessions, nine were "paired-sessions" in which a session with a specific topic (e.g. growth hacking or business model) started with class mentorship and, subsequently, in the following day or days after, the session continued with one-on-one consultation. This situation enabled the startups to be highly prepared because there were tasks given before the one-on-one mentorship and they had to discuss the details of their companies, including future strategic plans, with various mentors. In between those

sessions, there were 16 networking events. The accelerator and the VC organised 'invite-only' networking events (e.g., networking party, editor's night and press conference) and encouraged participants to join external events (e.g., seminar/conference, launching event, technical meeting, exhibition/conference, other's demo day) in order to expand their networks.

The participants also engaged in other activities during and between those scheduled above. These include funding-related activities, coordination and monitoring, informal talks and media exposure. Firstly, the accelerator and the VC team facilitated the participants in funding-related activities such as determining the scalability and market potential of the startup during the selection process, establishing 'startup-investor zone' during the program, and referring the startups to potential investors. Secondly, during the programme, the organiser brought together the participants and the VC into coordination and monitoring activities through computer-mediated communication (CMC), program evaluation and improvement meetings, and monitoring the progress of the startups. Next, there was also a set of informal talks which took place during the programme, for example, conversations during the trip to a networking event place and in-between the session's activities. Lastly, the participants, together with the hub management, actively took part in media exposure activity. This media coverage activity aims to promote the program, the startups, the VCs and their partners through publications of the accelerator's Kick-off Meeting, partnership with the PR consultant as a guest speaker in class mentorship, organising editor's night events, Startup World Cup press conferences, and media coverage of the Final-Demo Day.

As we can see from the timeline (per Figure 2 above), the formal mentorship contact point reached its peak in the 6th week, with the networking events at their highest point in the 3rd week. In terms of their accumulation, there was an increasing trend of

formal activities from week 1 to week 8, but not after that. For instance, during the first month (week 1 – 4), the occurrence of a single one-on-one mentorship session, nine class mentorship sessions and six networking events represented the aim of the 'introductory' month. A different impression happened during the second month (week 5 – 8) with eight one-on-one mentorship sessions, seven class mentorship sessions and five networking events. The startup companies were swamped by the amounts of advice and criticism from the mentors, the achievements and experiences of their peers and the attention required by their internal business operations. A decreasing trend happened in the formal activities during the third month (week 9 – 12) but informally, there were subtle activities regarding Demo Day preparation that was not obviously scheduled; this preparation was not recorded in Figure 2, but the actual activities gradually increased. The Final-Demo Day at the end of the month approached, and this sense of four weeks left struck the hub management and participants right at the beginning of the third month (in the middle of week 8). The hub management and participants fine-tuned their activities, conversations and detailed time scheduling toward the Final-Demo Day. Moreover, it was a mood changer knowing that the Mini-Demo Day, a test run pitching in front of other invited VCs, was scheduled to take place the following week and that the startup companies have not been fully refined from the 'grinding'.

Realising the impact of Demo Day to their reputations and to their aim of reaching the international networks, the startups dedicated the last four weeks of the programme perfecting their 5-minute pitch deck (consisting of slides and video) and their talk in English. Having learned about the participants' preparedness from the previous cohort, the organiser decided to have a Mini-Demo Day in the 9th week before the Final-Demo Day (in week 12). This was also a strategy to have an early momentum build-up instead of culminating the intensity into a week or a day before the Final-Demo Day.

Therefore, in short, the intensity of startup seeding during this 12-week programme occurred because of these four reasons: participants have dual responsibilities; hub management and participants follow the packed 12-week timeline with formal and informal activities; hub management organise and manage different elements in the pre-acceleration stage and during the acceleration; and the VC takes risk in investing in the considerably young startup companies and to bring them to the next level.

5.3.2. Racing to the Demo Day

In the first pattern, I have described a pattern of intensive startup seeding in this startup accelerator. The title of this sub-section, "Racing to the Demo Day", is another pattern that I discovered during my fieldwork, which I use to describe:

(i) the presence of the specific pressure of "racing to demo day" in its actual manifestation — I use the term "pressure" here to refer to an intangible (as in, *the in-between*) aspect;

(ii) how this pressure causes the preparation to focus on the delivery of pitching and bring 'fitted' human elements to the programme;

(iii) how the pressure worked with the issue of continuity and brought 'fitted' activities; and

(iv) how the pressure brought different points of view about the acceleration process.

This is my first description. Having selected the participants and intensively engaged them with a vast array of activities within 12 weeks, the human elements in the

startup accelerator were under pressure to be ready for Final-Demo Day. The following observational snapshot during the 8th week captured this:

> After lunch, one of the accelerator team [HM2] went to the VC's office and met with three members of the VC. They first talked about the accomplishment of yesterday's event (press conference) and the beneficial coverage from the media. The conversation's topic then moved internally to the current content and feedback of the acceleration program and to the progress of each startup.
>
> They shared concerns in terms of the absence of a recorded monitoring system and a person who would continuously and meticulously follow the progress of startups. As a response to this situation, they made this get-together to "cross-reference" their assessment of startups that they have got through different channels.
>
> Above all, what worried them most was the preparedness of the startups because *the demo day* was getting closer; it was less than three weeks away. The discussion ended with follow-up actions of increasing monitoring activities and of maximising *the mini-demo day* (the next week—week 9).
> (Snapshot 1: Observation – 3 Mar 2017)

A short context for this snapshot: the day before, there was a press conference about the Startup World Cup organised by the VC and the government creative agency, BEKRAF. One of the accelerator's alumni, who was the winner for the South-East Asia region, will attend the grand finale of the competition in San Francisco together with one of the accelerator's current participants. Additionally, two days before the discussion in Snapshot 1 and at the end of the second month (week 8), the accelerator's participants had just finished with business-related mentorship sessions and only one investment-related session was left for them which will be held a week after the Mini-Demo Day (week 10). Therefore, from Snapshot 1 and the context above, the pressure did not occur only at that specific week because they (organisers and participants) had recognised the pressure since the beginning of the program. Rather, Snapshot 1 was more of a reminder of the pressure which constantly appeared during the programme.

For my second and third description, I use the two 'effects' presented in the following way. There were two main 'effects' in relation to the pressure experienced by

the hub management and its participants. The first 'effect' was with respect to preparation for the Final-Demo Day. The preparation for pitching on the Final-Demo Day was basically to prepare the content and performance of the presentation. The pitch required concise content on what the product is, its future prospects, the ability of the team to handle all the pressures, and the investment needed to expand the company. Hence, the content of the mentorship session, such as presentation, strategic planning, business model, business strategy, investment strategy, was deliberately arranged to equip the startup companies with those key messages of pitching. Besides content, the performance of presenting in English was practised during one-on-one mentorship sessions, mentorship classes and networking events. In these formal activities, the participants gave a short presentation about their startups to different mentors. In networking events, the participants also presented their startups to the general audience in event locations such as restaurants and cafés. This pressure, or, in other words, we can say, this working arrangement, requires the different elements to function together, which I will further explain below.

In preparing for the Final-Demo Day, the startup accelerator brought together 'fitted' different stakeholders to support the startups. The identified stakeholders (and their relevant activities/responsibilities) of this accelerator programme were:

- the hub management (responsible for the whole process of acceleration);
- the startups (as mentored by the mentors),
- the partner VC (responsible for the selection of the startups and engaged in the future funding of the startups),
- the mentor (to mentor the startups),

- the other investors (i.e., other VCs and angel investors; to assess the potentiality of startups moving from one funding stage (pre-seed) to the next funding stage (seed)),
- the creative agency of the government (to support the startup ecosystem in Indonesia),
- media (to support the coverage of the achievements of each element), and
- alumni.

These different elements came together and influenced one and another through their roles and responsibilities to prepare the startup teams for their short term milestone of pitching on Demo Day.

The second 'effect' of the pressure of "racing to the Demo Day" related to the continuity of the elements involved. Demo Day, for the different human elements, is also about ensuring the continuity of their operations. It was like a 'checkpoint' for the startups, the VC, the hub management and the mentors in reaching their respective future goal. Thus, racing to the Demo Day is also about racing to ensure continuity. The startups wanted to keep their companies operating; the organiser wanted the programme to keep running; the VC wanted to develop their portfolios through this demo day; and the mentors wanted to see their 'mentee' perform well. To all those ends, success at the Demo Day was necessary. Therefore, "racing" here means to speedily get assurance of each element's existence within the given timeframe; it is not about who is going to be the first to reach the finished line. It became a pressure (or an 'urge' or desire) for each element to take part and be involved in this intensive acceleration programme either in its formal or informal activities, scheduled or non-scheduled contact points, in or outside the normal

working hours. Moreover, this pressure that is related to the continuity of these different elements had brought the 'fitted' activities to be interconnected in the hubs.

From section 5.2.1, the findings out of my observations revealed six categories of interconnected activity that equipped the startup companies for dealing with this pressure (and of course, for ensuring their continuity). Those six activities were:

(i) Mentorship;

(ii) networking events;

(iii) funding-related activities;

(iv) coordination and monitoring;

(v) informal talks; and

(vi) media coverage.

During fieldwork, I found that one activity led to another as it can be seen in these two instances. Firstly, mentorship led to both the networking events and to informal activities; because of the events and activities, the investment opportunities increased, and certain events led to media publication; plus, because of that publication, the hub management was able to conduct monitoring activity. Secondly, in a networking event one night before a mentorship session, one startup [SF2] approached a mentor who was also an angel investor and they had an informal chat; the next day, having known the startup beforehand and convinced by their performance in their one-on-one mentorship session, the mentor [ME3] responded "*my investment amount is very small. Only 10.000 USD. How about this, do you accept 10K investor?"* My point here with these two examples is that these activities are compatible with the agenda of pitching on the Demo Day and ensuring the continuity of the elements, specifically, the success/continued existence of the startup companies. These activities were designed by hub management

so that the startup companies would be ready for Demo Day, and, at the same time, would be able to strategically improve their company. This improvement, as I observed, manifested through the optimisation of the business model, the introduction to investors, the increased profile of reputation, and, sometimes, receiving an actual investment offer (as mentioned above).

Thus far, I have described three points for this "racing to the demo day" pattern. Specifically, regarding the pressure to race toward the Demo Day, such pressure acts like 'glue' that configured a range of interconnected stakeholders and activities. Not only did this 'glue' bring together these heterogeneous elements, it also shaped the interactions so that they are all 'working together' to be ready for the Demo Day and to safeguard the endurance of this productive relationship among the elements in startup accelerator. However, besides these two 'effects', this pressure does bring different views during the acceleration process, and the following describes this difference.

My fourth point, thus, is related to the different views regarding mentoring, in which I regard these views as a consequence of "racing to the Demo Day". In preparing for the Demo Day and ensuring continuity, a divergent point of view about the delivery method of mentorship emerged between delivering basic-topics-for-all versus a more bespoke approach. The organiser planned the first month as an introductory month, where the first three weeks covered the "basic content" which the hub management believed would be useful for the startups. The nature of the topic was considered as basic because the mentors transferred knowledge on areas such as human resource, legal matters, product development, business and financial model, and media relations to the startups. One of the alumni of the program recognised this matter: "*I think, initially, they [the hub management] assumed us as [the companies with a] much earlier stage when we joined the accelerator, as in [the case that] we [are the companies that] only have the idea*"

[SA1]. This was true to the extent that although the companies had the product or service, not all the startups have the same level of experience so there was a need to bring everyone to the same level. Additionally, some basic contents were useful for the startups who just already had the business running. However, for the startups, spending three weeks for the basic-content approach seemed too long, and the following paragraph captured the views from startups founders.

Although, according to the hub management, there was an improvement from the previous batch, the current participant asked for a kind of approach beyond the current one. *"The basic is like a lecture [class mentorship] at the beginning of the session and could be one time only to give a general insight. After that, the tailored [approach], based on the need of each startup"* [SF1]. This concern about the basic classes was also shared by previous participants: "*most of us had launched our service products, so some of them are too basic for us. That might be more appropriate for an incubator"* [SA1]. It is not that there should not be a basic content in an accelerator, but what concerns them is the time taken because they have a fixed final day and they have to keep running their companies. Moreover, each startup has its uniqueness: *"a startup has different field, different way of doing things, and I think we need more attention on this particular aspect"* [SF1]. For instance, startup-1 [SU1] was recently founded by a fresh graduate and consisted of a team of fresh graduates, whereas startup-4 [SU4] was founded in 2015, with one of its co-founders having graduated several years ago and had business experience, and it had a team of both fresh graduates and experienced professionals. The SU1 founder had to manage day-to-day operations and establish a stable system while participating in these basic classes. Consequently, the SU1 founder did not fully participate and often delegated a team member to participate, which influenced the quality of discussion. In comparison, the SU4 co-founder [SF2], together with at least one team

member, fully attended and engaged with the session because they had an established working system. In between the pressure from the Demo Day and the continuity of their business, a bespoke approach would bridge the need of these different startups.

Up to this point, I have established that racing to the Demo Day (with its pressures) has appeared in the coming and working together of heterogeneous terms, and in the intense views on mentorship. Now, in order to arrive at the final point of this acceleration programme, there are "check-points" at which the startup companies have to demonstrate a required result. These "check-points" represent a way of tracking the progress of each startup and the effectiveness of the programme toward handling the pressure of Demo Day and ensuring continuity. The startups aimed to excel in delivering their product and in other aspects such as the clarity of their business model, how responsive and prepared they are before meetings, relations with other startups, and impressions created on mentors and investors. In monitoring these aims, the hub organiser arranged a smaller scale of demo day (Mini-Demo Day) where other investors were invited to listen for the startups' pitching and then give input to the startups. The organiser also attended the one-on-one mentoring to follow the progress of each startup. Moreover, in the session where the mentor was an investor, the organiser monitored how many startups received an investment offer. This monitoring is due to the fact that the accelerator through the VC invested in the startups.

In summary, as described above, racing to the Demo Day captured the constant pressure of an intensive preparation throughout the 12-week programme to deliver a final pitch in the Demo Day and of racing to speedily ensure continuity. This constant pressure has brought together the stakeholders to involve in various activities in or outside the accelerator's building toward the Demo Day, brought intense view on mentorship's delivery, and caused constant monitoring. As explained above, the process to reach the

Demo Day is not only about honing the pitching performance and the expected progress is not only about perfecting the product of the startup companies. Within the pre-programmed 12-week schedule, the startups, organisers, venture capital, investors and mentors are coming and working together to ensure their continuity. What is a continuity for each of these elements is variously determined by its organisational forms, but these elements share a common goal that successfully engages with the activities from the kick-off to final demo day is a sign of progress. Moreover, having improved the product and established a stable business operation through the programme and having offered an investment from a mentor, they are sending a strong message that the startups have made progress to reach goal of becoming the scalable startups.

5.3.3. "Securing an offer? I can do as well"

The title of this sub-section reflects the sentiment from a range of distinctive expressions captured during the acceleration programme. "Securing an offer? I can do as well" refers to a response whereby the startup founders who were the participants could also secure a funding offer during a mentorship session where the mentor was also an investor. A clarification: I use the term "expressions" to broadly capture conversations in mentorship sessions and informal talks, terms used and meaning resulted, communications of benefits offered, and jargon used. In a broader sense, I use this subtitle to capture an array of distinctive expressions, which is not exactly about expressions of competition, but rather, as categorised into two major components:

(i) a sense of participating in the same league; and

(ii) a collection of funding-related expressions.

In my findings, they often co-exist together. "A sense of participating in the same league" refers to a collection of expressions regarding the ability of the team, achievements during

the programme, and the potentiality of the startups. "Funding-related expressions" relate to the 'language' spoken regarding funding or investment, such as the theme or topic of a conversation, its terms and the expressed expectations.

Accordingly, in this sub-section, my description of findings is as follows:

(i) I begin with Snapshot 2 that conveys the two components (as described above) of "Securing an offer? I can do as well";

(ii) I then proceed to present Snapshot 3 that conveys the second component that is the theme of a conversation, terms and expectations;

(iii) Furthermore, I emphasise the expectation, which has appeared since the pre-acceleration stage;

(iv) I then describe how these two components appear in the "perks"; and

(v) I describe how the jargon 'moves to the next level' in relation to the title of this sub-section.

For my *first description*, a snapshot below, conveying a series of events in a day with two parallel one-on-one mentorship sessions, illustrates the actuality of these two components of "Securing an offer? I can do as well". The whole of Snapshot 2 indicates the 'I can do as well' message and the bolded words are examples of funding-related expressions

> In session #1 [held in parallel with session #2; both sessions are one-on-one consultation session], SF2 received *"**an** [investment] **offer**"* from the mentor-angel investor (ME3). The other founders who were waiting for their turn at the co-working space received this news, greeted SF2, and then eagerly continued to prepare their own presentations. SF2 then sat back and prepared for session #2.
>
> [I highlight below the interactions between SF4, another startup, and ME5 to serve my purpose]

> During session #2, after SF4 had presented on their startup, the unserved market, the strong connection they had with the government bureaus and the planning for the next year, the mentor (ME5) asked:
>
> **ME5:** *And you **raised** already? Or you still **raising*** [**funds**]*?*
> **SF4:** *We already closed **the last round** with* [the accelerator].
> **ME5:** *How much did you raise?*
> **SF4:** *150.*
> **ME5:** thousand dollars?
> **SF4:** *Yes, and **the next phase** is we are trying to get $500,000.*
> **ME5:** *You have more experience than us, right? Because you have worked on that topic, you've got domain expertise, you've got amazing relationships, so, we can only give the outset. But you're the expert! So, I think you have a great market. You make it happen!*
> *So, now you need to do follow-up work, for the tech implementation and the user interface need to be super simple.*
> (SF4 then talks about the tech team.)
> **ME5:** *I am excited! If I would have known about your $150,000, I am not only going **to invest** by myself, I will **invite others too**.*
> (Snapshot 2: Observation – 17 Feb 2017)

Although the last statement from ME5 was not an actual offer, it was taken by the startup [SF4] as recognition of their progress so far in the acceleration programme. Having known that not all startups received an offer or a quasi-offer during the sessions, the announcement SF2 and SF4 made in the co-working space regarding the offer was more for status or recognition. The announcement was not only about the offer, but more about being acknowledged by a group of international mentors and investors. Moreover, since all the startups were competitively selected by the organiser to participate in the acceleration programme, they endeavoured to keep their status as the selected participants. In keeping that sense of participating in the same league, the startups were influenced to engage with the 'language' spoken in that ecosystem. The topic discussed during mentorship (between the ME5 and SF4) was heavily drawn by investment offer or investment readiness. Terms such as "raising", "last round" and the amount needed were used during the conversations and it represented funding-related terminology.

For my *second description*, another snapshot, this time from an informal talk during a journey on shared-riding service from the accelerator's office to a networking event, illustrates what this language looked like. Snapshot 3 presents the topic or theme of the conversation, with the bolded words and the whole conversation itself as related to funding-related expressions:

> Topic: Finding Lead Investor
>
> **SF9:** *Please tell us about the* ***raise*** [of funds].
> **HM2:** *I think there was an experience that a startup* ***asked too high***.
> **SF9:** *Could they* ***secure*** *it?*
> **HM2:** *They already had investors, but no one wanted* ***to lead***. *That's the problem. So, finally, they used* ***convertible note***.
> **SF2:** *That's exactly like us last year. The same!*
> (Interrupted by) **HM2:** A *few investors* ***committed***.
> **SF2:** *Everyone wanted to join, but no one wanted* ***to lead***.
> **HM2:** *Four already* ***committed***. *Enough for the startup, the funding amount met the expected, but no lead investor yet.*
> **SF9:** *So, what happened?*
> **HM2:** *The convertible then.*
> *You may try to talk with* **[mentioned an investor]**, *one startup had secured the investment, with the lead as well, quite fast.*
> (Snapshot 3: Observation – 16 Feb 2017)

In the example above (Snapshot 3), the topic discussed was about the lead investor, and the terms used, as highlighted in bold, were clearly arranged according to a set of investment expressions. There were other topics in the informal talks such as feedback on the program or suggestions for the mentor, but they occurred after the startups experienced a few mentorship sessions. On that note, the investment-related mentorship topics such as fundraising and investment strategy were scheduled for the following weeks, so, the occurrence of the "finding lead investor" topic was not in the same situation as the topic of feedback/suggestions. It means that the cause of this funding-related expression ("finding lead investor") to have appeared (even) in the informal talk was something that had been internalised by the startups which is, in this instance, the expectation of securing funding.

My *third description* relates to this expectation. The two excerpts above — from the talks in the formal session and informal co-working space (Snapshot 2) and more informally in the car (Snapshot 3) — thematically and terminologically denote funding-related expressions. The expectation of securing funding can be retrospectively traced from the pre-acceleration process. Taken from the interview extract as quoted at the opening of Section 5.3.1, in which there is an intention *"to bring [the startups] to the table [for investment], [and] as far as introducing them to our investment community in Silicon Valley"* [VC1], the selection process indicated an expression of the expected investible startup companies. Similarly, through the accelerator's publications (e.g., website and brochure), in which the accelerator mentioned three key areas of support being *"perks", "mentorship"* and *"access to capital",* the hub management, in addition to providing funding, sends a message about introducing and connecting the startup companies to funding sources (e.g., angel investors, companies and venture capitals). Thus, semantically, the expectation of supporting startups was translated to the expression of preparing startups for the next level. As a result, an expectation made in the pre-acceleration stage was to bring the competitive (selected) startups to move to the next round of investment.

My *fourth description* presents the usage of a specific expression that is "perks" in relation to "Securing an offer? I can do as well". A collection of funding-related expressions and a sense of participating in the same league also occurred in another key area of support offered by the accelerator: perks. As written on their website — *"from free office space downtown Jakarta to provide access to stretch your resources, we've assembled a hefty list of perks"* — the perks symbolise a range of benefits in addition to funding and offered mentorship. From Snapshots 2 & 3 (above), the informal talks in a co-working space and during a car journey were also considered as a kind of perk because

they offer greater opportunity in securing funding; from the timeline above (Figure 1), the organiser pre-arranged the networking events to bring different elements to casually interact in which those events were also a perk. During casual events, quick conversations and short catch-up meetings between startup founders and co-founders and investors, mentors and hub management were employed to create speed networking. For instance, at one of the networking parties, startup founders and co-founders became aware of the presence of alumni, other startups, and investors. They then took their turns approaching these different actors and had short chats about their startups and each other's experience. As a result, they made an introduction before a mentorship session with an investor — I gave this example about the SU4 and the ME3 in the interconnected activities above in Section 5.3.2.

Through the sentiment of "Securing an offer? I can do as well", "perks" was framed not only as 'additional benefits' in the complementary sense but also in a primary sense. This situation happened because these 'additional benefits' of joining startup accelerators can convey a meaning of providing a benchmark or self-assessment about the readiness of a startup in moving to the next round of investment. When a startup is in the middle of raising funds, the communications in these perks can preliminarily give a sign of investment opportunities, as seen in the example of SF2 and ME3 in Snapshot 2. The communications were not about startup pitching or directly asking for investment availability from the potential investors, but about the introductory gesture and rapport building from both sides. While the atmosphere and interactions in these social events may have looked casual, and at some point they may extend the networks of those involved, and the themes, terms and meaning of the whole conversation were closely related to securing funding. Thus, perks as 'additional benefits' became important because it aligns with the funding-related expression.

My *last description* is the use of jargon that is related to securing an offer. In addition to the expressions captured in the pre- and during acceleration, there was jargon of an ultimate goal: to move to the next level as shared among the elements in the startup accelerator. The phrase 'move to the next level' in this context can have the meaning of moving from one funding stage to the next funding stage, such as from the pre-seed stage to the seed stage, or from the seed stage to the Series A funding stage. It can also mean to have reached a scalable form so that the startup companies can expand their operation and business. Similarly, having transformed a team to learn from the grinding process and to pitch in the Final-Demo Day is also part of the move to the next level. Although this phrase represents a common goal, there are different interpretations about what the meaning actually is. Therefore, an accelerated startup as a startup company that has graduated from the acceleration program can only formally mean a startup company that has pitched in the Final-Demo Day — or, become alumni on the accelerator's website. Nevertheless, behind the term 'alumni' or 'the accelerated one', the phrase 'move to the next level' was smoothly pulled by the funding-related expression. In other words, because of "Securing an offer? I can do as well", the jargon used here is (subtly) defined as 'next investment level'.

In summary, I have framed "Securing an offer? I can do as well" as an expression that consists of two main components: a set of funding-related expressions and a gesture of participating in the same league. I have shown that an array of expressions corresponding to the two components appears (and often co-exist) in different settings of activities and stages of the acceleration process. "Securing an offer? I can do as well" does not only exist in a specific period of time, such as, for example, in Snapshot 2; rather, it constantly exists since the pre-acceleration stage. It does not only exist in a specific activity, such as, for example, in Snapshot 3 (informal conversation in a car); rather, it

also exists in other activities that I observed. “Perks” and ‘move to the next level’ were acceptably redefined by this accelerator in aligning with both components above. However, in determining the end result of this programme, the accelerator modestly revealed that those who have ‘moved to the next level’ or completed the program are designated as alumni, not as a recipient of investment. What my point regarding this variation of expressions here is that “Securing an offer? I can do as well” manifests through a multiplicity of expressions.

5.4. The Accelerator Assemblage

The startup accelerator has been described in the previous section as an intensive 12-week programme that requires the elements involved to reach the Final-Demo Day and ensure the continuation of their operations with a range of expressions like funding-related and be on par with others. As described above, we can see that, in the actual state of the startup accelerator, three patterns represent what happened in its 12-week programme during the field study, namely:

- “12-week startup seeding” (to capture intensive seeding),
- “racing to the Demo Day” (to capture configurations of bodies through speedily ensuring continuity), and
- “securing an offer? I can do as well” (to capture a set of funding-related expressions and expectation or configurations of expressions).

However, aside from these actual findings (or effects in Assemblage terms), we need to understand not only what kind of Assemblage (here, I propose this Assemblage as an *accelerator assemblage*) this is that brings about these effects, but, more importantly, how does this kind of Assemblage define the startup accelerator — as is my

concern in my central research question. Thus, in this section, I argue that the form of content and form of expression will elicit the accelerator assemblage that caused the above-described interactions, just as Deleuze (1988, 33) states, *"It [form] forms or organizes matter; or it forms or finalizes functions and gives them aims"*. Also, together with my other analytical devices – formalised function, reciprocal presupposition, and territorialisation – I will explain the mechanisms of this Assemblage. This analysis thus aligns with this thesis's concern of Assemblage analysis to uncover the conditions of a certain state of affairs in a creative hub (i.e., in a startup accelerator).

This sub-section will proceed as follows. In 5.4.1, I will first analyse my findings from subsection 5.3.1. ("12-week Startup Seeding", above). By this analysis, I will begin to differentiate how the Assemblage of the startup accelerator works through intensively seeding the scalable startups to firmly reach the seed stage (5.4.1.1. Formalised Function). Next, drawing primarily from subsection 5.3.2 ("Racing to the demo day"), I will explain the formalisation of content or machinic assemblage of bodies in subsection 5.4.2. Then, drawing primarily from subsection 5.3.3 ("*Securing an offer? I can do as well*"), I will proceed to my analysis of the formalisation of expression or collective assemblage of enunciations in subsection 5.4.3. Last, I will explain the reciprocal presupposition and transformational movement (territorialisation analysis) in subsection 5.4.4. Subsection 5.4.5 will conclude.

5.4.1. Seed Accelerator: Intensively Seeding Scalable Startups

First, I clarify my usage of the phrase "seed accelerator" here, instead of "startup accelerator" which had been used thus far. In brief, the former is a model or a kind of the latter. Moreover, as I will argue later, there can be many kinds of startup accelerators because the accelerator assemblage entails potentiality via the forms of Assemblage.

As the participants acknowledged, there is a need to go beyond the basic mentorship classes which are associated with an incubator. As such, the seed accelerator form entails a more advanced way of organising the mentorship classes, or, in general, the acceleration programme. The seed accelerator has been compared with the incubator in previous studies, such as by Cohen and Hochberg (2014) in which an accelerator has a three-month duration, a cohort approach, an investment or non-profit business model, a competitive and cyclical selection frequency, an accepted early venture stage, offered seminars, an on-site venture location, and intense mentorship. In comparison, the incubator has a 1- to 5-year duration without a cohort approach, a rent or non-profit business model, non-competitive selection, an accepted early or late venture sage, offered ad hoc education (such as human resources and legal), on-site venture location, and minimal mentorship (S. Cohen 2013).

Similarly, Isabelle (2013) differentiates the accelerator from the incubator using insights from entrepreneurs whereby the accelerator fits next stage/ high growth firms, takes a short-term process/cohort-based approach, focuses on sectors with a shorter time to market, and is a program within an institution with more focus on growth and ROI/for-profit. In comparison, the incubator fits early-stage startups, takes a long-term process, focuses on sectors with a longer time to market, and is an institution with more focus on economic development/not-for-profit. Besides these differences, Miller and Bound (2011) remind us that one feature of the accelerator is the provision of pre-seed investment usually in exchange for equity. However, efforts in comparing these two kinds of hubs do not make them out to be two separate independent entities. Rather, Pauwel et al (2016) categorise this accelerator as a new generation of incubation model. Drawing from the differences and the new category as provided by these studies, I thus propose to reveal the working arrangement of the startup accelerator so as to revitalise our views regarding

the startup accelerator's current configurations, its function and potential. For the ease of cross-referencing with my findings (section 5.3), I will start with the hub's formalised function.

5.4.1.1. Formalised Function

I start this subsection with my analysis of formalised function that is primarily drawn from subsection 5.3.1 ("12-week startup seeding"), in which the subsection focuses on intensive seeding. Formalised function in this Assemblage (accelerator assemblage) is like a machine that works through two prongs to achieve a group of seeded startups; it gives direction for the organisation of bodies or elements and for the arrangement of the signs or utterances in or regarding the startup accelerator.

Thus, as I have described intensive seeding in subsection 5.3.1, here, I define the formalised function of this acceleration Assemblage as: *to intensively seed the scalable startups*. I will explain each word or phrase from that definition in turn. The use of the word "intensively" here refers to the plethora of activities, tasks, and events that have to be done in a short period of time and the resulting high pressures felt by the human elements — I have presented this intensive approach through the timeline in Figure 2 in subsection 5.3.1. Moreover, during that period of time, there are multiple directions of input and feedback from different elements, as well as decisions that have to be taken by the startups regarding the future direction of their companies. The acceleration process is also intensive because, as I found, hub management organise and manage different elements from pre- and during acceleration, and the VC takes the risk to invest in the considerably young startup companies.

"Scalable startups" refers to the nascent startup companies that have just launched their product or prototype, or just acquired their first customer, or just received their first

revenue. Considerably still in their high-risk level as implied by the VC, these groups of startups represent the provisional with an opportunity to grow. For example, the seven startups selected as the participants (out of 186 applicants) were valued by the hub management and the VC as the companies that have a higher probability to be the scalable startups.

"To seed" in this sense means to nurture the startups or prepare them to be ready for scaling-up; it is a process of systemisation, a process where the product, service, market aimed, revenue stream and startup's team are 'reassembled' so that the startup is able to operate on a larger scale. In short, "to seed" can be understood as to rapidly increase the growth of startup companies. Increasing the growth, or seeding the startups, in this accelerator is technically defined by completing the program and ensuring the startup's continuity. In this study, seeding a startup is to prepare a startup which already has a proven product and/ or a proven revenue stream but has not secured Series-A funding yet, in order to be ready for the next funding stage of that startup's cycle. Also, I found the range of activities that serve the function of seeding, in which these activities echo the findings of previous studies, such as, selection, funding, mentorship and educational components, investment opportunities, networking opportunities, demo day and alumni network (Miller and Bound 2011; Radojevich-Kelley and Hoffman 2012; S. Cohen and Hochberg 2014; Pauwels et al. 2016; Bone, Allen, and Halley 2017b), In addition to this set of activities, my in-depth study found more detailed variations of activities such as class and one-on-one mentorship, the making of a startup-investor zone, the referral of startups to potential investors, coordination and monitoring by the organiser, informal talks and media coverage.

"Seeding" also requires a specific co-function amongst the stakeholders. This startup accelerator works by not only selecting the potential scalable startup companies,

but also by favouring the mentors with a strong background in investment and in an accelerator-oriented approach, the venture capitals with a mixed vertical portfolio, and the partners with awareness of seeding startups. Mentors and coaches with investment or funding backgrounds are preferable because they can support startups in mentoring their business and technological aspects, while at the same time, opening up investment opportunities for the startups — such as in the "deal-flow maker" accelerator (Pauwels et al. 2016). This seed accelerator form also requires startups companies with a particular progress at the time of applying. Although the startups have their differences in terms of experience and operation, they have to be scalable. Similarly, this Assemblage entails a government agency that has the qualities of supporting early stage startups, corporations that aim to extend their network, and media that provide coverage to boost the startup's credibility — something that is also typical for the "welfare simulator" and "ecosystem builder" accelerator (Pauwels et al. 2016). Therefore, this way of co-functioning (to intensively seed the scalable startup) happens in the seeding stage for the following:

1) to prepare the startup for the next step of its business development; and

2) to pave a way towards a further funding stage.

In understanding this coming together of these heterogeneous elements (e.g. activities and human elements), one can simply argue that the funding (or capital) is the factor that connects them all together. However, if viewed as an Assemblage, the cause is not like that because funding is a material (content) element organised by acceleration assemblage — paraphrasing from Deleuze and Guattari (1987), elements "are consequences, nothing but consequences of the collective [assemblage of enunciations] and machinic assemblage [of bodies]". Thus, the next section will explain further the machinic aspect (form of content) of this accelerator assemblage.

5.4.2. Formalisation of Content: Thinking through the Seed Accelerator

In this subsection, I will explain the first mechanism of parallel formalisation, that is, the formalisation of content, or, the machinic assemblage of bodies. As explained in Chapter 3, this machinic aspect of an Assemblage refers to the process of the intermingling of bodies that is driven by the form of content.

I start my analysis by framing the *"seed accelerator"* as the form of content of this accelerator assemblage. Drawing on my explanation of the intermingling of bodies in subsection 5.3.2. ("Racing to the demo day"), I will now examine the "why" aspect of those intensive interactions in such a short period of time. Taking from subsection 5.3.2. above, the form of seed accelerator acts like the 'glue' of this composition of bodies; it is like a shared-desire or -urge that works in the space of the in-between — and it manifests as a pressure in my findings. Thus, *"seed accelerator"* is the form of content because it makes the elements in the startup accelerator to race to the demo day and it makes for the 'selection' of elements — as described in section 5.3.2, which entails the 'fitted' human elements — that can be involved. Also, this form of content brings variation to the result of the startup accelerator.

Drawing from the feudal Assemblage exemplar (Deleuze and Guattari 1987; Deleuze and Parnet 1987), whereby the intermingling of bodies in the man-horse-stirrup assemblage and its function is determined by machinic Assemblage, we can view the "*seed accelerator"* form as the one that organises these complex heterogeneous elements. The *"seed accelerator"* as the form of content passes through and requires these elements/matters/bodies, and determines their function/role as stakeholders in the startup accelerator; it works like a rhizome in terms of how "it is always in the middle, between things" (Deleuze and Guattari 1987, p.25). While the decision of who will be the participants was mainly decided by the accelerator management through its venture

capital team, the more dominant issue here is what makes the VC and their criteria (team, product and market) co-locate in the first place. My argument is that it is the force (urge/desire) of intensively seeding the scalable startups that determine those decisions and the criteria; it is that relatively 'investor friendly' approach due to its short period (efficient), competitive nature (best investible companies), and scalability (potentially high return) that attract the investment parties. The same fundamental cause can be said for the selection of mentors, coaches, journalists, and other elements because of the *modus operandi* this seed accelerator form operates with. Furthermore, this form has a certain degree of freedom to flow in between things and 'select' them. What can be included by this form is very restrictive, and indeed can be different elements — "human, animate, inanimate" (Grosz 1994, 167) — but they have to be aligned with the mode of operation of *"seed accelerator"*.

As this form of content shapes the way bodies interact with one another in the startup accelerator, *"seed accelerator"* does entail for a set of specific practices in a startup accelerator. For example, those practices, or, as I call them, 'effects', are observed in the studied accelerator as the preparation that, besides of the business aspects, gives a strong emphasis on the pitching aspect with the support from the 'fitted' stakeholders. Another example is how the *"seed accelerator"* form made different points of view about the acceleration process. One the one hand, the mentorship should contain basic content so that the participants would gain similar understanding; on the other hand, the mentorship may contain short/brief basic content (so that the programme is unlike an incubator), and then proceed to a more tailored support for the needs of each participants. Through Assemblage, we can see that the bigger picture here is not actually about the pressure, but the form of the "seed accelerator" that requires these elements to interact in a specific way according to the formalised function.

Another Assemblage-related account here is the end result of the startup accelerator: is it to successfully pitch in the Final-Demo Day or to receive an offer? To analyse this situation, Deleuze and Guattari (1987) remind us that the machinic concern of Assemblage is "not to the production of goods but rather to a precise state of intermingling of bodies" (90). It is not that the end result is not important for the startup accelerator because it actually is vital, as observed in the field study: it is important to ensure the continuity of those who are involved.

However, as viewed through Assemblage, the issue here is more about the condition of seemingly two divergent results. At one extreme, a startup might not fully attend the sessions but manage to secure an offer; conversely, a startup might fully attend the sessions and receive no offer during and at the end of the programme. Are both extremes acceptable to the startup accelerator? The hub management of the startup accelerator, which is the result of a joint-venture between a multinational corporation and a VC which is responsible for the programme, would prefer to have the startups fully participate and pitch at the Final-Demo Day. The VC who is responsible for the selection of startups would, of course, want to see their investment grow, and an offer is a preferable result. The startup teams would like to see their company continue operating, and, of course, growing. Having analysed that the *"seed accelerator"* form operates in the space of the in-between or in the middle, its preference does not automatically correspond to the actual duality result. Rather, the *"seed accelerator"* has the role of rapidly increasing the growth of the startup companies, in which it persists to keep the different bodies intact under this condition—and, when the condition changes, the elements experience a disruption. I will further discuss this with respect to re/de-stabilisation in subsection 5.4.4.2.

5.4.3. Formalisation of Expression: The Expression of *"Seed Funding"*

Another mechanism of the parallel formalisation in my analysis is formalisation of expression, or, collective assemblage of enunciations. Alongside the form of content, the form of expression refers to an expression without sign, or, a form without substance. Hence, in this section I will frame the "Securing an offer? I can do as well" pattern as described in 5.3.3 as a manifestation of the form of expression.

I start by arguing that the form of expression for this accelerator assemblage is *"seed funding"* — the double quotation marks and italicised style emphasise the term as a virtual condition/entity. *"Seed funding"* here does not solely mean actual seed funding, but, rather, it is more about *becoming* seed funding, where *"seed funding"* is still in an intermediary state, has not acquired its final expression-being, and is still in the state of potential-expression. In my findings, specifically in subsection 5.3.3 ("Securing an offer? I can do as well"), actual examples that are related to this expression are the terms (e.g., "raising", "to lead" and "offer"), themes (e.g., "lead investor") and expectation (e.g., preparing startups for the next level) in and regarding the startup accelerator — note that they do not mimic *"seed funding"*, rather, they correspond with it. As "signs are organized in a new way" (Deleuze and Parnet 1987, 71) by form of expression (or collective assemblage of enunciations), this *"seed funding"* thus organises the expressive matters such as ideas, discourses, terms, themes and conversation during and regarding the acceleration program through a set of funding-related expressions and a set of communications of participating in the same league. Besides its fluidity, this form of expression (*"seed funding"*) also:

(i) has a transformative aspect;

(ii) can operate like an awareness; and

(iii) works beyond representation.

I will explain them in turn.

Firstly, *"seed funding"* brings an "incorporeal transformation" (Deleuze and Guattari 1987; Massumi 2002) — whereby the physical body remains the same but the social status has changed — attributed to those who are selected and graduated from a startup accelerator. Thus, *"seed funding"* here means having secured a seed funding offer or on the way to securing seed investment, and it makes the arrangement of things in the startup accelerator seem "justified and more importantly legitimated" (Buchanan 2017). For startups, a seed funding is not only about the amount of the money and what can they do (mostly on surviving). With that amount, it is also about recognition and validation of what they have been working on. Being part of and receiving the funding from the startup accelerator distinguishes the selected startups from other startups (7 out of 186 applicants); it frames them in the spotlight and places them in the frontline.

Moreover, alumni of the accelerator that are entitled with this exemplary status receive a highlight from the hub management, startups in the current cohort and the venture capital when they attend the hub's activities. For example, the founder of SA1 was invited to give a talk at one of the accelerator's events. The stories of those alumni during acceleration and how they were able to secure seed investment are not only highlighted in conversations, but create an expectation of what the current startups should be, or a future projection of what they can be. Instead of making the startups compete against each other, rather, this expectation of securing seed funding makes the startups (who are competitively selected) to use expressions that keep their status as the selected participants (e.g., in Snapshot 2). In other words, the incorporeal transformation of seed funding entails for "a change in sensibility, a change in our way to value and perceive"

(Lazaratto 2004, 189). Therefore, through this transformative expression side, the startup accelerator also gained its importance due to this recognition, validation and expectation.

Secondly, *"seed funding"* is like an awareness that drives, and even changes the conversation topic amongst the people in the startup accelerator. One example is the mentorship-related conversations in the mentorship sessions that are converted by the mentors-investors to investment offers. When the team of SF2 gave a presentation in a mentorship session, they knew that there was a 'typical' expression (which is an offer) uttered by the mentor; eventually, the mentor offered a USD 10,000 investment. The topic that was supposed to be on business strategy and modelling changed to an investment offer; something that is not 'typical' to the mentorship session but was expected in this startup accelerator. In other words, *"seed funding"* as the form of content makes the human elements to have an awareness of the unexpected expression (although my example here represents an unexpected expression as receiving an offer in a mentorship session, the unexpected can also include not having an offer, or receiving a quasi-offer). Thus, this *"seed funding"* expression infiltrates the human elements that involve in those activities so that they speak to one another with the *"seed funding"* awareness.

This awareness that is driven by the *"seed funding"* regime of signs makes the human elements of the Assemblage use specific funding terminology and non-verbal gestures (as described in subsection 5.3.3.), or in short, the whole discursive multiplicities of the expression that contains funding utterances. For example, the terms "raising" and "last round" in Snapshot 2, and the terms "to lead" and "committed" in Snapshot 3. Another example is how the jargon, 'move to the next level', was subtly defined as 'next investment level'. Also, "perks" was framed for not only as 'additional benefits' in the complementary sense but in a primary sense of securing funding. An array of perks like the informal talks and the 16 networking events recorded in this study is an example of

how the accelerator actors value the "club culture sociality" (McRobbie 2002) and "network sociality" (Wittel 2001). Moreover, in terms of Assemblage, the awareness of *"seed funding"* makes the communications in these events not only about casual interactions but also about the introduction gesture and rapport building of the startups and investors, including mentors and hub management.

Lastly, the *"seed funding"* expression does not work through representation such that the range of funding-related expressions which happen in the startup accelerator should not be thought of as a projection of an ideal form. Rather, I argue that the variations of expressions in terms, themes and semantics as observed above are assembled by the form of expression to work beyond representation. For instance, the studied accelerator used the term "alumni" to designate those who completed the programme, instead of a term such as "seed fund recipient". In comparison, as referenced on their websites, two accelerators, Y Combinator and TechStars, go beyond the term "alumni" and use the terms "active", "acquired" and "failed" companies (Techstars 2017) or "publicly launched", "top 100 YC companies by valuation", "acquired YC companies" and "dissolved YC companies" (Y Combinator 2017).

Having considered the fact that the observed accelerator was only in its second batch and the different designations used by other experienced accelerators, these variations of expression regarding those who completed the program indicate the fluidity of the "*seed funding*" expression. Moreover, in a more evaluative manner, the term "alumni" does not mean that this studied startup accelerator is not 'ideal' because it should have been using the exact reflection — i.e. "seed fund recipients" — which can also be said for the two above-mentioned examples. Rather, in an Assemblage manner, the term "alumni" occurred due to a set of conditions in the observed accelerator that, for instance, is still very young, has a VC partner, has a parent multinational corporation, has

a strong trait of educational aspect, and has not heavily introduced the idea of startup acquisition. Moreover, the fact that other accelerators have used divergent expressions is undoubtedly strengthening the notion that this *"seed funding"* expression works beyond representation.

5.4.4. *In Medias Res* of Accelerator

In this section, I will analyse the reciprocal presupposition and territorialisation (transformational movement) of this Assemblage (respectively in subsection 5.4.4.1 & 5.4.4.2).

The startup accelerator is a co-location and configuration of heterogeneous entities. Having said that, the formation in the acceleration assemblage is a matter of the temporary unity of the *"seed accelerator"* form and the *"seed funding"* expression. The acceleration assemblage arranges heterogeneous elements (human-activity-infrastructure and themes-terms-expectation and other expressions) through the operation of machinic assemblage of bodies *("seed accelerator"* form) that organises bodies and of the collective assemblage of enunciations (*"seed funding"* expression) that organises expressions in their respective plane. This temporary state of equilibrium between both dimensions of Assemblage implies that they are active, moveable forms that can move away from each other at any time. At the moment, they are locking each other and they are constantly pulled by the lines of de/re-territorialisation. In this way of thinking, analysing the status of the accelerator as being in the middle of things (*in medias res*) thus means:

(i) looking at the *reciprocal presupposition* of the two forms; and

(ii) mapping the forces that can destabilise the collaboration in the accelerator *(transformational movement)*.

5.4.4.1. Reciprocal Presupposition

The first point of analysis to support the *in medias res* status of startup accelerator is the unstable equilibrium of both forms, or, in its theoretical terms, in the relation of reciprocal presupposition.

"Seed funding" (as the form of expression) temporarily 'locks' itself with *"seed accelerator"* (form of content). The combination (*"seed accelerator" – "seed funding"*) brings about the actual interactions in a startup accelerator. For example, the form of the seed accelerator requires the different elements to interact in such a way so as to bring about the intensity in a short period of time (see again Figure 2 for this short and intense timeline of the acceleration programme), the fluctuation of tensions (namely, pressure to reach Demo Day), the pressure to ensure continuity, and the highly mobile interactions (attending networking events and mentorship sessions). It gives not only pressure to the startup teams but to the other elements as well. Therefore, a form of expression like *"seed funding"* legitimises that operation as conducted by the form of content. Here, again, *"seed funding"* does not only mean the amount but the *meaning* of that amount, the intrinsic value, the prestige and the expectation it creates. A Demo Day would be meaningless if there is no recognition in terms of funding expressions, namely, either an offer or a quasi-offer. Networking events would simply be informal group meetings if there are no investment expressions. Informal conversation, conversation during mentorship and knowledge sharing about investment would have less meaning if the stage of startups and its product are too early and not scalable. In short, there is an equilibrium between the two forms that defines a startup accelerator in providing support for the startups.

A different situation happens if the two forms are not in a state of equilibrium. If the actual operations entailed by the *"seed accelerator"* do not meet the expectations

organised by "*seed funding*" expression, or, if the expressions related to *"seed funding"* are not proper enough for the actual operations organised by the *"seed accelerator"* form, then the startup accelerator would cease to be sustained. The form of expression, for example, for *"mentorship"* might not be in a state of equilibrium with the form of content for *"seed accelerator"*. If *"mentorship"* expressions (including the expectation of, e.g., bespoke mentorship) became the form of expression, then the intensive approach and the pressures entailed by *"seed accelerator"* seem out of equilibrium. In other words, the form of expression of *"mentorship"* has difficulty in relating itself in reciprocal presupposition with the *"seed accelerator"*; mentorship might thus lock itself better with the incubator form because the incubator form might not entail the intensity and pressure of the seed accelerator form. Another example: if the form of expression is *"acceleration"*, then it might come close to a state of equilibrium with the form of content for "*seed accelerator"*. *"Acceleration"* as form of expression can also create an expectation of a fast pace and a short period of time, but that expectation is a consequence (or mode of operation) of the form of content for *"seed accelerator"*. In other words, "acceleration" is more suitable as an element for the form of content or the machinic assemblage of bodies (subsection 5.4.1 & 5.4.2) above. Therefore, these two forms have to be in a balance so that this Assemblage can stay intact.

In the current equilibrium of this accelerator assemblage, the startup accelerator has successfully attracted hundreds of applicants, even though the acceptance rate is less than 4%. In a study of European accelerators (Miller and Bound 2011), the acceptance rate varies, with some accepting less than 1%, some between 4-10%, and others 15%. The attractiveness of the accelerator in terms of the support offered, the way of organising and the reputation and credibility through media coverage, success stories and words of mouth, has caused startup teams (the applicants and the participants) to make extra effort,

such as filling in extensive application forms and attending interviews, to be part of the accelerator program.

Accordingly, when the formation experiences a fluctuation, then the startup accelerator faces a set of tensions and differences — that is only to be expected as the Assemblage is not a static entity. A concrete example of this interplay is about how mentoring should be done. There are discussions on giving more emphasis to tailored-support rather than basing mostly on class mentorship; on classes that should have reached beyond basic topics because the founders have been running their startup; and on the need to get participants together during their first month (as described in Section 5.3.2).

Through Assemblage theory, I can explain this situation. I argue that those different expectations and tensions happen because there are other Assemblages that are in play with the accelerator Assemblage. For example, let's take the incubation Assemblage, which also actively organises elements such as hub management and different startup founders and co-founders so that they have different expectations; it also persists to maintain its unity. This other Assemblage operates in the same virtual plane/territory as the accelerator Assemblage; as such, it also operates like a rhizome. It works like an open system, in which it keeps making connections and interacting with various bodies. Consequently, this interplay in the virtual plane can bring a destabilisation for the joint-form (*"seed accelerator"* and *"seed funding"*), and subsequently, influence the configurations in the startup accelerator, e.g., in occurrences of tensions and differences. In terms of the pliability of this acceleration Assemblage, its formalised function (explained in the end of subsection 5.4.1) sets a limit of this Assemblage so that those tensions can occur. In the nature of intensive seeding, the participants do not see

that spending the first month on class-general sessions fit their needs, but on the contrary, they perceive that seeding in the networking events and one-on-one sessions.

Thus far, I have explained the reciprocal presupposition of "*seed accelerator"* and *"seed funding"* and the importance of these two forms to stay in an equilibrium state. The startup accelerator thus has the *in medias res* status because of this equilibrium in the space of the in-between – equilibrium that defines the actual interactions in startup accelerator. However, since both forms (of content and expression) have their mechanism in their plane (and hence subject to the lines of deterritorialisation and reterritorialisation), they both have a tendency to either stay together or to move away from each other. The next subsection will explain about this tendency through territorialisation.

5.4.4.2. Territorialisation

My second analytical point regarding the *in medias res* status of the startup accelerator is related to the process of territorialisation, or, transformational movement of its Assemblage.

The use of *in medias res* here captures the in-between-ness of the accelerator assemblage and the current state of the studied startup accelerator. In the space of the in-between, the accelerator assemblage is a temporary formation of *"seed accelerator"* (form of content) and *"seed funding"* (form of expression), and they are de-territorialised from another Assemblage and then re-territorialised in the current Assemblage. In the case of the *"seed accelerator"*, the findings (in subsection 5.3.2) and my analysis in subsection 5.4.4.1 (Reciprocal Presupposition) indicate the transformational movement from the incubator Assemblage. Similarly, the *"seed funding"* is a new way of organising expressions from just being merely a *"mentorship"* expression. With this new regime of signs, the expression such as: "… After that, the tailor-made, based on the need of each

startup" [SF1] would be understood as the need to make a startup — with its specific team, business model and challenges —be ready for securing the next funding stage. In a different situation (informal conversation in Snapshot 3), this new way of expressing expressions can be noticed since the beginning of the conversation, which is expressed by SF9: "Please tell us about the raise [of funds]".

In its actual state, the startup accelerator as a joint program literally stands between corporate and venture capital. During the programme, at least one representative from the corporate headquarters in Japan attends all the sessions, and the program manager, also an employee of that corporation, gives frequent regular updates to that giant IT solution provider. The VC, where one of its capital sources is the same corporation, gives frequent updates about the programme to its headquarter office in Silicon Valley and also actively organises its own agenda like the Startup World Cup. This situation indicates the startup accelerator as a meeting-place, or, concrete 'shared understanding', of the two parties. Moreover, as I described about the type of accelerator in Formalised function (as above), the acceleration assemblage ("*seed accelerator*" – "*seed funding*") presents a mixture type that is neither purely a corporate-led form (ecosystem builder) nor an investor-led accelerator form (deal-flow maker).

Thus, through these examples described in the last two paragraphs, I argue that the acceleration assemblage (including the actual startup accelerator) is subject to this dual-movement. More importantly, from the two examples above, we can also perceive the *in medias res* of its actual state and its form. However, since I scrutinise this startup accelerator using Assemblage Theory, then the accelerator assemblage (with its temporary equilibrium) is open for change because of its dual-movement. I will use two examples from my study in this chapter to explain my argument: the use of the term "alumni" (subsection 5.3.3 & 5.4.3) and the timeline (Figure 2 in subsection 5.3.1).

The term “alumni” is at a crossroads at the moment. This situation occurred not because it does not mirror the *“seed funding”*, but because it may not deliver a message that is not as strong as the message of the selection process. The key message of the selection process (input) implies a very competitive acceptance rate (less than 4%). However, the key message for the finishing process (output) is to graduate/complete the programme. At the moment, this is fine for the startup accelerator; but, when I use the lens of Assemblage, especially through transformational movement, then I can start to ask a question such as: is the term “alumni” suitable enough? The ‘pressure’ created by the term “alumni” might not be as high as a term that denotes those who finished the program with “received investment”, or other similar terms that can reflect this purpose. Nevertheless, this changing of expression will bring a new and different expectation for the human elements, including for the two entities (the corporate and the VC). There will be a pressure for not only presenting at the Demo Day, but also, for actually securing a funding. Moreover, this potential change corresponds to my second example: the timeline.

The timeline (in Figure 2) is also at a crossroads. The current timeline has accommodated some changes based on the feedback from the previous cohort — e.g., reducing class mentorship sessions and increasing one-on-one mentorship sessions [HM2]. However, there are still actual calls for change from the current participants (eg, to focus on a tailor-made approach). Through Assemblage, I can start to ask questions such as, instead of a Kick-off – Mini Demo Day – Final Demo Day approach, can the startup accelerator use a different ‘approach’ in their timeline? For example, by including Deployment in that approach, where I use the term “deployment” to represent the implementation of a proposed change during the 12-week programme. Adding this ‘stage’ into the current approach will create a new different arrangement for the elements

involved. The pre-acceleration will thus not only be about selecting but also assessing and proposing for alternative changes. The Kick-off can be used as the starting point of the deployment process, and the rest of the weeks can be used for monitoring, evaluation and improvement, and most importantly, for securing investment. Eventually, the Demo Day will be the progress report for this deployment.

My two examples above, as based on this chapter, show that this accelerator assemblage is subject to change. In the following section, I will explain this transformational movement, particularly in relation to Chapter 4. On the one hand, the form of content as *"seed accelerator"* indicates the transformational movement from incubator Assemblage (as one of the hubs in my first study is an incubator). On the other hand, *"seed funding"* is a translation from the range of support of a hub can give (in relation to *"more than just space"*, per Chapter 4). There is a different way of doing things in a startup accelerator and an incubator because they have different Assemblages. Rather than more than just a working and lively space, the support offered here is more specific towards preparing a startup company for the next step of its business development and of its funding stage. Although I have categorised the accelerator and the incubator both as creative hubs, they have different working arrangements.

Still related with this territorialisation analysis, a change can happen in terms of the continuity of the startup accelerator. For instance, the VC wants to find other ways to find the potential startup companies rather than invite them to the current acceleration programme. Or, the corporate entity might think about utilising different models rather than a startup accelerator. If we think through the forms (of content and expression) of the accelerator assemblage, there are alternatives. *"Seed accelerator"* with the function of intensive seeding can be transformed into a form of content that entails a kind of accelerator that may support the scaling-up of later stage startup companies. "*Seed*

funding" awareness can be changed into a form of content that entails Series-A funding awareness. As a result, there will be a new Assemblage or organisation of human-activity-infrastructure and theme-terms-expectation. The VC or the corporate entity can think of a way of organising later stage companies with strong corporate backing — for example, a different startup accelerator that focuses on securing Series-A funding.

5.4.5. Summary of Assemblage Analysis

In short, these four points of analysis (from 5.4.1 to 5.4.4) have shown my employment of Assemblage in terms of formalisation: *formalised function* in subsection 5.4.4.1, *form of content* in subsection 5.4.2, *form of expression* in subsection 5.4.3, *reciprocal presupposition* in subsection 5.4.4.1. My analysis also shows territorialisation/ *transformational movement* in subsection 5.4.4.2. Accelerator assemblage has the formalised function to intensively seed scalable startups. It does so by, on the one hand, organising the whole array of bodies and things (human-activity-infrastructure) in a machinic assemblage of bodies *("seed accelerator"* form) and simultaneously, on the other hand, structuring the whole set of expressions (themes, terms, expectations and other expressions) through a new regime of signs *("seed funding"* expression). Therefore, my usage of *in medias res* here —just like beginning a story from the middle but it does not break from the previous and will improve later— captures the non-static formation (temporary equilibrium) of both the accelerator assemblage *("seed accelerator"–"seed funding"*) and the startup accelerator (human-activity-infrastructure and terms-themes-expectation).

The question now is this: Is this working arrangement in the startup accelerator different form the working arrangement in the creative hubs from the previous chapter (Chapter 4)? If we think of each form operating in its respective plane — i.e., the space

of the *in-between* — then they are experiencing transformational movement. Just like the form of content of creative hubs is migrated from the cluster or district or other co-location forms, the form of content: "*seed accelerator*" is also experiencing this transformational migration from the incubator Assemblage. Furthermore, we can perceive that the human-activity-infrastructure configurations in the first study is arranged by the Assemblage to interact under the function of provisionally supporting the provisional. Here, in this study, the activities-humans-infrastructure configuration is re-arranged by the acceleration assemblage to intermingle in the evolved function of intensively seeding the scalable startups. The mixture enters a new regime of signs, from *"more than just space"* to *"seed funding"*.

Lastly, what makes this chapter's analysis matter for the startup accelerator will be summarised in the following way. Firstly, this analysis maps the mode of operation and movement of forms (content and expression) or conditions in the space of the in-between of the startup accelerator and their implications to the configuration of humans-activities-infrastructure and of terms-themes-expectations in it. Secondly, improvement can be made to advance this startup accelerator by i) re-arrange (including streamlining) humans-activities-infrastructure according to 'intensively seeding the scalable startups' limit and ii) re-positioning (either strengthening or even replacing) the *"seed funding"* expression in the configurations of expressions. Thirdly, the startup accelerator itself is a startup just like the startup participants, so it is also a provisional entity. Although it is an institutional-based joint-program, it has its own mode of operation and function which is relatively independent from the two collaborators, and its lifetime follows the status as a program. Fourthly, following from the third point, the startup accelerator must re-think how it wants to proceed regarding the limit of the accelerator assemblage. Whether it wants to push the limit or to go beyond that limit, the *in medias res* status/situation implies

change, a change that can be mapped (or, better, anticipated) rather than just arbitrarily happen.

5.5. Conclusion

In this chapter, I have analysed the conditions that make the interactions in the startup accelerator become intensive and related such analysis to my understanding of hubs as developed from the previous chapter. Firstly, Assemblage as a condition works two-fold: by intensively accelerating the growth (i.e., seeding) of early-stage startups which are potentially scalable; and expressively structuring the signs to be worked together for delivering funding-related expressions. Thus, working under tight deadlines and running the startup at the same time is seen as appropriate because of the *"seed funding"* legitimator, and actively being involved in the informal activities out of working hours becomes meaningful because of the awareness structured by the *"seed funding"* and striving to keep the startups in the same league due to the transformational aspect of *"seed funding"*. Within the same perspective, this Assemblage persists to maintain its unity because of the double movements of territorialisation. In this study, this movement is seen actually in the middle status of the accelerator as a joint-program. It also can be observed through the tensions of treatment in terms of an incubation-approach versus a more advanced-approach. Furthermore, this movement, as characterised by transformational migration, has made variations of accelerators, and it will bring about different kinds as well.

In relation to the previous chapter, the formation of a creative hub Assemblage with its function has experienced the transformational movement and then territorialised in the startup accelerator. This movement is manifested from providing a mixture of work-share-play space with a range of activities for the provisional to providing an

intensive seeding approach to the nascent scalable startups; and from a collection of supportive expressions that is organised by *"more than just space"* to a collection of supportive expressions that is organised by *"seed funding"*. Also, the configurations of activity-team-infrastructure manifested differently, from the configuration in creative hubs studied in the previous chapter to the configuration in this startup accelerator. There is also a different manifestation in terms of the formalised function, a startup accelerator provisionally supports (provides intensive seeding) the provisional (for the nascent scalable startups). This is to say that an Assemblage is a multiplicity that works through formalisation and transformational movement and manifest differently in the creative hubs.

This view means that thinking of "creative hub as Assemblages" is not like finding an essence that determines or classifies what a creative hub is, but rather to find what a creative hub can do, including the interactions it contains. Creative hubs can be manifested in different ways — as summarised above and as established in the literature, but they still share the characteristic of spatial co-location. My next question, then, is: what would happen if that spatial co-location is no longer taken into account? I will explore this question in the next chapter with regards to virtual hubs.

CHAPTER 6

Virtualising Virtual Hubs

6.1. Introduction

My trajectory of empirical study in this project ends with studying virtual hubs. The first and second studies have given me a rich set of data that I could use to build my assemblage-oriented understanding. However, one more thing left is the nature of the hubs in these two studies were a spatial co-location based. Having considered the emerging practices non-spatial co-location of hub that is mediated by digital technologies, I then decided to add one more study of hub. Examining these non/less-co-located hubs required my enquiry to go across geographical boundaries. Therefore, I used website analysis and interview to gain my understanding of this newly emerging practices of incubation and acceleration. To that end, my enquiry thus also highlighted the interactions in supporting the hub participants and how the hubs manage the absence of in-person interactions.

This chapter thus presents a study of an emerging model of creative hubs (i.e. a virtual model) that involves using digital communication technologies to mediate the incubation process. Previously, in Chapter 4, I have examined three physical (in-person) creative hubs by doing interviews and observations. This has led to the development of a thematic understanding of their relational aspects, which have, in turn been analysed through the lens of Assemblage as the *things in the in-between* that define actual interactions. Later, in Chapter 5, I conducted an in-depth ethnographic study in a startup accelerator to examine further the interrelations of different elements (activity-human-

infrastructure and terms-themes-expectations) in an intensive hub through my application of Assemblage (i.e., formalisation and territorialisation). From these two studies, the Assemblage of creative hubs is seen to have the formalised function *to provisionally support the provisional*, and simultaneously to have the conditions: the development of a 'lively' space via a set of activities (configuration of bodies) and legitimatising that configuration via a set of supportive expressions (configuration of signs/utterances).

Drawing from the fact that these two studies still share a spatial co-location trait that seems to determine interactions, I will now look at the ways virtual hubs that rely on a set of digital communication technologies manage the absence of in-person interactions. Moreover, this chapter will also examine the Assemblage of these virtual hubs and relate it with my previous Assemblage analysis — this will be the *virtualising* virtual hubs. Besides the novelty of studying these socio-technical platforms, I include these virtual hubs in my study because they do not rely heavily on spatial co-location but still, arguably, can provide support to their participants just like a traditional hub. This last study is, therefore, critical to my argument that a creative hub is defined by an Assemblage, rather than only by co-location and internal processes/activities.

Accordingly, in this third study, I aim to develop an understanding of this emerging model of creative hubs by conducting a two-stage approach: categorising 25 virtual hubs' websites and interviewing 10 participants (in section 6.2. Method). These two modes of inquiry provide ways to understand the included/recruited virtual hubs at two levels: *(i)* a broader understanding of the support offered and their key processual qualities (in subsection 6.3.1), and *(ii)* a more detailed understanding of participants' experiences that comprises four themes of digital incubation: advancing participation, "we are still startups ourselves", customisation and managing non-completion and exploring online approaches (in subsection 6.3.2 — here, I will also explain why I use the

phrase “digital incubation” to capture the processes of these virtual hubs). I synthesise these findings by extracting strategies virtual hubs employs in managing the absence of in-person interactions (in section 6.4). Moreover, I capture the two mechanisms (digitalising and platform building) of these virtual hubs — these mechanisms serve to bridge my Assemblage analysis.

In terms of an Assemblage-oriented understanding (in section 6.5), I will look at the conditions that define the work-in-progress (ups and downs and strategies) of the virtual hubs through the lens of Assemblage. First, regarding the formalisation analysis, on the one hand, through an analysis based on machinic assemblage of bodies (*form of content*), activity-human-infrastructure are seen to operate under a set of conditions: *(i)* flexible with rigorous, *(ii)* global with customised, and *(iii)* technological with humane (in subsection 6.5.1). On the other hand, through an analysis based on collective assemblage of enunciations (*form of expression*), the term *“virtual hub”* is seen to makes such bodies’ configurations look proper (in subsection 6.5.2). It legitimises the work-in-progress of the digital incubation (the ups and downs and strategies of the virtual hubs) through the meaning and performative aspect of *“virtual”* — almost or as good as reality, an alternative to or better than real. I give concrete examples about the relation between these two forms in my explanation, about *reciprocal presupposition* and *formalised function* (in subsection 6.5.3). Second, regarding the territorialisation analysis (in subsection 6.5.4), I look at the *virtual* transformation (transformational movement in the *virtual* plane): *(i)* from the forms (content and expression) of the co-location of activity-human-infrastructure and a set of expressions to the non-co-located one, and *(ii)* as the cause of the variations in the virtual hubs. I conclude by summarising this chapter’s key points.

6.2. Method

The third field study explores a set of global virtual creative hubs (i.e., virtual incubators and accelerators) by categorising their websites and conducting interviews. Besides extracting emerging practices from these current virtual avenues that allow startup founders/entrepreneurs, organisers, and mentors to interact, this case study explores the main agenda of this thesis that is to examine the condition (Assemblage) under which these digital incubation practices emerge. After completing my first two field studies, I suspected that spatial or physical co-location remains as one of the 'traits' that make all of the different models of creative hub seem to work under seemingly similar conditions. However, with the emergence of virtual hubs that mostly rely on non-physical co-location, I would like to explore these questions:

- do they share the same Assemblage with the previously studied hubs?
- how does Assemblage work to constitute these virtual hubs, which also have different types and forms?

Therefore, I make my inquiry into these virtual hubs, which I consider novel, as these are current underexplored socio-technical platforms.

This study of existing virtual hubs followed a two-stage process comprising, first, the identification and categorisation of 25 hubs based on the documentation provided on their websites and, second, a set of semi-structured interviews with 10 virtual hub participants and organisers. In following this process, I sought to first provide an overall picture of the current landscape of virtual hubs (primarily from the website analysis) and, to follow from this, more in-depth insights into a sample of those hubs, with a focus on the relational aspects that contribute to their experience (primarily from the interviews).

6.2.1. A Broader Understanding: Categorising Virtual Hubs

I began the first stage of this study by compiling a list of 203 candidate virtual creative hubs from different sources, including: 41 incubators from Open Movement (OpenMovement n.d.); 55 creative hubs found from by searching the European Creative Hub Network with the keywords 'digital', 'incubation' (European Creative Hubs Network 2016b); 80 virtual incubators and accelerators from Ideagist (Syed 2017); 11 virtual incubators and accelerators dataset from a NESTA UK dataset (Bone, Allen, and Halley 2017a); and 16 from a list developed in my two previous field studies. Next, I included or excluded each candidate from the sample based on information available on each hub's public website. To be included in the sample, a hub had to meet the following criteria (see Table 5 below): offer services that aim to support business incubation or acceleration; have geographically distributed participants; deliver services virtually or semi-virtually; and offer sufficient information for the researchers to have confidence in drawing conclusions about it. 27 hubs were eliminated in the first stage due to insufficient information.

Table 5. Inclusion and Exclusion Criteria

Criteria	**Inclusion**	**Exclusion**
Participant location	*Usually Geographically Distributed*	*Usually Geographically Co-located*
Way of delivery	*Virtual or semi-virtual*	*In-person*
Sufficient information from primary and secondary sources.	*Sufficient*	*Not Sufficient*
Kinds of virtual creative hubs	*Incubator or Accelerator*	*Online forum, online repository, online database or directory, online communication channel, online training/consultancy.*
Service provided	*Incubation with an integration of services*	*Single specific topic: such as cofounder matchmaker, inbound marketing.*

Following the initial application of the inclusion criteria, I was left with a sample of 32 hubs. I then surveyed the websites of these hubs in more detail to categorise the hubs in relation to categories including: type (incubator or accelerator); form (e.g. fully virtual, hybrid); support offered (e.g. mentoring, funding advice); business stage of participants (e.g. pre-startup, later-stage venture); duration of support (ranging from 10 weeks to 12 months); tools used (e.g. video conferencing, learning management systems); cost of participation (e.g. free, fee paid, equity taken); and key relational qualities of physical hubs from the literature exhibited (e.g. social capital, knowledge exchange). The full categorisation of my sample can be found in Table 6 (below in Section 6.3). Following my detailed categorisation, seven of the 32 websites were branded as either a virtual incubator or accelerator but they did not comply with all the selection criteria above. Hence, I used the data collected from *25 virtual incubators and accelerators*.

6.2.2. Exploring Hub Experiences in Detail: Interviews

In the second stage of my study, I conducted 10 semi-structured interviews. My interview sample spanned two continents including 6 in Europe and 4 in North America. The 13 hubs were chosen as a sample to represent a selection of different hub types and forms (fully virtual, hybrid; course-based, non-course based; hub for global participants or region-based participants) and different ways that they were established (from fully virtual; from physical to virtual; from business consultant to virtual hub; and formed by a big company) from the first stage review. Of the thirteen virtual hubs contacted through email, I received approval from seven virtual hubs that represented the above-mentioned variations.

I interviewed the hub organisers and participants via Skype, Zoom, and Hangout. The hub organisers (HO) were:

- HO1: Chief operating officer of a virtual incubator that had developed customised web-based software for its platform.
- HO2: Founder & managing director of a virtual accelerator that utilised digital communication tools.
- HO3: Founder & coach at a virtual incubator that utilised video conferencing tools.
- HO4: Founder & CEO of a virtual incubator with customised web-based software.
- HO5: Co-founder & mentor of a virtual accelerator that had developed a platform using learning management system (LMS) software.
- HO6: Program head of a hybrid (online and offline) accelerator program that utilised digital communication tools.
- HO7: Program director of a virtual accelerator program that utilised digital communication tools.

Hub participants were recruited via organisers, with the sample size restricted by challenges including availability, loss of contact and commercial sensitivity. The three participants (HP) were introduced by the hub organisers. The participants' businesses were in different stages of development: HP1 was in the early stage, but now has their business running; HP2 was and now still is in the development stage; and HP3 was in the early stage, but now has expanded.

The semi-structured interviews were held for 30-60 minutes. These interviews sought to provide more detail about the features of virtual hubs discovered in the first phase, in particular how they were experienced by participants and organisers in action. Additionally, it was intended that the interviews would open up discussion of topics that

weren't covered during the website categorisation, such as: the definition of incubator or accelerator employed in the hubs; motivations to 'go online' and provide virtual instead of in-person hubs; experiences of the incubation or acceleration process and actual services provided; the perceived and actual values of such online systems; challenges experienced connecting remote participants through a virtual hub; evidence of presence, or lack, of relational aspects found in traditional physical hubs; and, specific to the hubs that employed a hybrid-approach, the difference between their online and in-person programs. I analysed interviews using Thematic Analysis (Braun and Clarke 2006) — an interpretive approach in which transcribed data was first open coded, and then emergent patterns among codes were identified and iteratively refined.

6.3. Support Offered, Qualities and Digital Incubation

The next two sections present findings from the two methods of data collection described above. The first part describes a broader understanding of virtual hubs based on the website categorisation. The second part provides more detailed findings from the interviews.

Table 6. Result of Website Categorisation

Categories	f	%	Categories	f	%
Type			**Form**		
Virtual Incubator	14	56%	Fully Virtual	19	76%
Virtual Accelerator	12	48%	Hybrid	5	20%
Support Offered			**Business Stage**		
Mentoring	20	80%	Pre-startup	17	68%
Seminars/Workshops	8	32%	Startup	9	36%
Funding advice	5	20%	Early-stage venture	7	28%
Demo days	3	12%	Later-stage venture	1	4%
Networking connections	20	80%	Not Specified	1	4%
Access to investors	12	48%	**Duration of Support**		
Training	11	44%	Up to three months	7	28%
Legal/Accountancy support	3	12%	Four to six months	4	16%
Direct Funding	5	20%	Seven to nine months	1	4%
Investment readiness	13	52%	Ten months and greater	2	8%
Access to experts	15	60%	Not Specified	11	44%
Tech support	2	8%	**Cost of Support**		
Learning resources	4	16%	Free	4	16%
Tools Used			Participation fee	9	36%
Video Conferencing	10	40%	Equity taken	4	16%
Group Messaging	3	12%	Others	1	4%
Project Management	0	0%	Not Specified	9	36%
Shared Documents	6	24%	**Key Qualities**		
Customised Software	3	12%	Social capital	10	40%
Learning Management System	3	12%	Knowledge exchange	24	96%
Others	4	16%	Experimentation	0	0%
Not Specified	10	40%	Incubation	19	76%

Note: (i) ***f*** = frequency of hubs classified within a certain sub-category; (ii) ***%*** = percentage of hubs (e.g., 56% of the total sample is classified as a virtual incubator); (iii) an entry can have multiple properties, so the sum of ***f*** in each category may be > the sample size and the sum of % > 100.

6.3.1. Support Offered and Qualities

According to their websites, the virtual hubs included in my sample offer support in three common areas: mentoring and knowledge transfer, networking and access, and investment and funding. The support offered in these three areas can be broken down into further clusters (Table 6 — the percentage means percentage of hubs that offer a specific attribute, for instance, 80% of the total sample (20 out of 25 virtual hubs) offers mentorship). First, mentoring and knowledge transfer was found to comprise activities including: mentorship (80%), seminars/workshops (32%), training (44%), provision of learning resources (16%), and specialised support like legal/accountancy (12%) and

technological support (8%). Next, networking and access consisted of: networking (80%), access to experts (60%), access to investors (48%) and demo days (12%). Last, investment and funding support encompassed: investment readiness (52%), direct funding (20%), funding advice (20%) and demo days (12%). The above-mentioned demo days allowed participants to present or pitch in front of audiences including: investors, other startups, and mentors. Demo days are included in two of the areas because they were observed to provide opportunities for both networking and for securing investment. The support offered in these three areas was observed to primarily be targeted at emerging companies and businesses (e.g. pre-startup, startup and early-stage venture).

The virtual hubs delivered these forms of support using a range of tools. I found that three of the hubs had built customised tools to support their operation and the rest utilised existing tools, for example, video conferencing, group messaging apps, and shared online drives. The three hubs that had developed customised tools publicised this as an advantage when marketing their service to prospective participants. The hubs also delivered support to the process of incubation and acceleration over varying periods of time, ranging from ten weeks to twelve months. Contact between participants and other stakeholders in the virtual hubs was not found to take place on a daily basis. Rather, support was provided at scheduled or pre-arranged regular online meetings and via set tasks during the interim period. This way of organising was seen to be common across the websites surveyed — and was described as a way for these hubs to keep the participants on track and to provide a flexible contact-point between participants, mentors and organisers.

The information provided on the websites of the hubs suggested that their existence and configuration was driven by the provision of three key processual qualities, which have previously been noted in my previous study (in Chapter 4) as valuable traits

of traditional creative hubs. These were social capital, knowledge exchange, and incubation. 40% of hubs placed an emphasis on expanding the social capital of their users, in order to provide them with access to information and know-how, in the materials on their websites. Examples of materials that evidenced this included: profiles detailing the experiences and achievements of the incubator/accelerator and its team, a set of previous participants' success stories, a collection of companies and big brands that they are affiliated or cooperate with, and a set of processes that they have designed. Secondly, 96% of hubs included information on their websites that evidenced the importance they place on providing access to knowledge exchange for their participants. Examples of this included detailed descriptions of their curriculum or course syllabus; the kinds of seminars, training and learning resources they offer; and also detail about who their mentors and potential mentors are. Thirdly, 76% of hubs exhibited a focus on incubation in the description of their activities. That is to say, these hubs placed emphasis on nurturing, developing and supporting emerging businesses to survive, grow, and scale, rather than providing support to more established enterprises, in their online materials. Examples of this included detailed case studies that focused on how the development of particular startups had been facilitated by their method or approach and information about how the accumulation of the knowledge and experiences from the hub management and mentors could benefit prospective participants from early stage businesses.

76% of the virtual hubs surveyed showed evidence on their websites that they delivered their processes fully-virtually. 20% showed evidence that their processes happened through a hybrid approach where the participants and mentors spent time online, but would also meet in-person.

6.3.2. Digital Incubation

In the second stage of my study I conducted follow-up interviews with organisers and participants from a selection of these virtual hubs. In doing these interviews, I aimed to discover further detail about the support and qualities documented and, crucially, how they were being delivered and experienced in practice. In the following sections, I describe a set of themes that emerged from my analysis of the qualitative data from these interviews (HO: Hub Organisers; HP: Hub Participants).

However, before moving on to these detailed themes, I will first explain my use of the term digital incubation, instead of virtual incubation, in which the latter seems to align with virtual hubs. In a more technological sense, digital incubation is preferable to virtual incubation because the former encompasses a larger array of technological tools than the latter — digital technologies vis-à-vis virtual technologies. In a more etymological sense, the usage of the term digital in front of an activity-term or a thing-term emphasises a kind of activity or thing that is composed by a set of sequences of digits, while the usage of virtual emphasises a genuine or authenticity or quality of a kind of activity or thing. Thus, in presenting my findings, the former (digital incubation) is preferable than the latter (virtual incubation) because it aligns with the concern of the interactions in virtual hubs that are mediated (or digitalised) by digital communication technologies; nevertheless, I will keep using the phrase "virtual hub" because it denotes these emerging hubs and the term "virtual" is critical for my Assemblage analysis later.

Here also, I define digital incubation as the incubation process — including interactions, activities and support — that is mediated by a set of digital infrastructure utilised or developed by the hubs organisers to facilitate hubs' participants to interact amongst them and with mentors. Correspondingly, this definition has a similar configuration with the previously studied hubs in terms of human elements (organisers,

mentors and participants), activity (incubation process with its set of activities or support), and infrastructure (a set of digital infrastructure). By bearing this human-activity-infrastructure configuration in mind and addressing the novelty of studying experiences with virtual hubs, my four themes under the digital incubation are:

1) *Advancing participatio*n;
2) *"We are still startups ourselves"* (the first two themes are highly related to human elements and activities);
3) *Customisation and managing non-completion* (highly related to activities); and,
4) *Exploring online approaches* (highly related to activities and infrastructure).

I will elaborate these themes in turn.

6.3.2.1. Advancing Participation

A key advantage of virtual hubs noted in the interviews was the potential they have for increasing and diversifying participation. Virtual hubs were valued for offering remote participation and, as a consequence, greater accessibility for certain participants. Hub participants were said to be able to take part in the incubation and acceleration programs from anywhere at an arranged time with their mentor. All the interviewees noted that the founders or entrepreneurs that used these services came from different cities, countries or continents. As a consequence, the participants of these virtual hubs were able to benefit from incubation remotely. Prearranged contact points took place in various time slots, for example, once a week [HO1, HO3, and HO5] or twice a week [HO2]. This contact-point flexibility allowed founders or entrepreneurs, whose businesses required day-to-day attention [HP1, HP3], to join a program without relocating

to a city where a hub was based. It also allowed some of the users of virtual hubs to keep doing other full-time activities while engaging. For example: "*they were working full-time, their business idea was not their full-time job, but, they had just as much entrepreneurial potential*" [HO3]. The virtual nature of the hubs was found to also offer benefits for later stage startups: "*the physical space no longer makes sense because that type of startup is growing out their team and does not see any need to relocate to a new location"* [HO6].

The potential for virtual hubs to advance participation was also noted in relation to the higher capacity they can have in comparison to their in-person equivalents, which can allow the number of participants accepted to be expanded. Interviewees noted the fact that in-person hubs have limited availability. *"They received maybe a hundred applications to take 20 spots or 15 spots, so, we need to find a way to democratize access to incubation"* [HO1]. In another example, one in-person hub *"turned away 97% of the applicants"* [HO2]; it then experimented with an online version and invited all of them (i.e. the 97% rejected applicants) to join this program. While some in-person hubs have scaled their operation to different countries, virtual hubs were viewed as having much greater potential for international scalability. *"We can take it around the world, and differently or at the same time because this is online because it is module based"* [HO4]. The startups can participate *"from anywhere in the world once the model is virtual"* [HO6].

Another way that virtual hubs can advance participation is by offering support to companies at a very early stage, when they traditionally would not be able to engage with an in-person hub. This very early stage was understood differently by different hubs — such as the aspiration stage, ideation stage, and product-market fit stage— and according to the study's participants would often be overlooked by in-person incubators [HO1,

HO3, HO4, HO5, and HO7]. Virtual hubs, on the other hand, were said to target those who are looking for a *"model and viable way of just starting the project"* [HO1], *"some sort of structure, and how we would develop our idea"* [HP2], and to offer support *"from an inception of an idea to actually launching a minimum-viable product (MVP)"* [HO4]. Nevertheless, the virtual hubs also accepted later stage startups, such as those with less income [HO2]. Moreover, one of them decided to only *"[work] with later stage companies"* [HO6].

6.3.2.2. "We are Still Startups Ourselves"

The virtual hubs studied were also exploring and validating their business strategies and delivery models, in a similar way to the startups involved in their programs. The hubs ranged between adopting both business-to-customer (B2C) and business-to-business (B2B) models. Those following a B2C model would directly offer their services to participating businesses. This approach was said to introduce risk as it relies on recruiting individual companies with various marketing strategies, but also offers the potential for diversity as participants can come from various backgrounds: *"any entrepreneur can come to the web page and do the program with us"* [HO1]. On the other hand, those operating under a B2B model would provide a platform that would enable another institution to deliver an incubation or acceleration program. The B2B model was said to offer security by building on a partnership with a corporation, government, foundation, physical hub or university by, for example, offering a platform as a *"white label"* product *"to streamline their own entrepreneurship program"* [HO1]. For example, one virtual hub pivoted from the B2C model to the B2B model because cooperation with a certain institution could ensure members of that institution used the platform [HO5]. Another operated with these two models simultaneously, and stated that it had *"reached 300"* participants by doing so [HO1].

The virtual hub organisers interviewed, reported having explored a range of different ways of delivering incubation processes. HO2 and HO6 reported that they had originally offered their service in-person, but chose to move to an online version: *"We explicitly set out to learn about online programming like creating a 100% online version"* [HO2]. Another organiser noted that they moved from an in-person to a virtual model because of a change from working with early-stage startups to working with later-stage startups: *"Our motivation was to start working with later stage companies, therefore, we moved to this virtual model"* [HO6]. They described how a virtual model would allow them to reach later-stage companies, because those who have had their operation settled and based in a specific location would be unwilling to move to an in-person hub. However, they also noted that they still maintain a small portion of the in-person approach. Differently, HO3 and HO5 reported that they had moved from offering a fully virtual model to a combination of virtual and in-person. In these hybrid models, this combination of delivery could vary from one incubation phase to another: *"The six-week boot camp is delivered 100% virtual, the bi-weekly check-ins and three-month mentorship, a combination of in-person and online"* [HO3]. Or, it can be in the same phase of a cohort, *"We also have offline session as well, we have once a week, a lab day"* [HO5].

HO4 reported they are following their road map to have a large user base just like a startup usually seeks. In order to achieve this, they operate with two programs: a do-it-yourself program and a managed program. In the first, *"anybody can come in and anybody just follow the process [provided by the platform] and they are on their own"* [HO4]. While in the second, *"The managed program is only open to ideas that are, that have a social purpose, so they are basically ideas to bring a social change"* [HO4]. By operating this way, they intended to create a large user base without being limited by the

additional resources required to offer all users their full, managed program: *"This is all about creating it at a scale, and create value because of the scale"* [HO4].

6.3.2.3. Customisation and Managing Non-Completion

Another common issue noted in the interviews were the challenges of managing virtual hub participants. The virtual hubs organised a range of participants and endeavoured to maintain their participation throughout the program. By doing digital incubation, the virtual hubs were able to include participants from different time zones, with different business focuses and from different geographical locations. This broad spectrum of participants introduced challenges, which were addressed through a set of customisations into their programming. In a program where the participants came from two continents, the hub *"did not have both cohorts meet together because of the time zones. So, we ran basically two simultaneous sessions. We had two separate sets of facilitators to run both program"* [HO2]. When a platform received the variety of participants with different business focuses, it had to put additional effort in the pre-mentoring stage. *"The first stage is the matchmaking. The idea is for them [participant and prospective mentor] to get to know each other. If they do decide to continue, they sign a mentorship agreement"* [HO1]. As a result, this modification benefited hub participants, for example, one participant expressed that a mentor from a reputable institution *"gave me a huge boost"* [HP3] and, since that mentor had the same field of expertise to them, *"[the mentor] understands this approach that I am trying to have"* [HP3].

The interviewees noted that working together in an online environment over a period of time increased the chance that participants would not complete their program. The rate of non-completion varied across the hubs discussed in the interviews, for

example: 2% [HO1], 30% [HO7], and 70% [HO4]. The interviewees described a range of creative methods they had developed to motivate and enable participants to complete. In managing this issue, *"We just basically keep sending them messages on that you are left behind"* [HO4]. Aside from such follow-up tactics, further efforts described included gamification: *"We do have gamification built-in, we use a fair amount of motivational techniques"* [HO5], and building a tool that is *"interactive, gamified, step by step, very practical as much as possible because they really want to grow the businesses, they don't want to do homework"* [HO1]. These hubs also made efforts to configure their pre-mentorship phase to increase the chance of completion by *"includ[ing] geography as a [mentor-participant] matching criterion"* [HO1] and contacting participants in advance to ensure their level of enthusiasm for the virtual process: *"[we work with] only those who put real interest actually to the platform"* [HO5].

6.3.2.4. Exploring Online Approaches

The virtual hubs described in the interviews had explored a range of ways to configure their platforms so that they would replicate the benefits of being in an in-person hub. This replication was motivated by a desire to keep the human experience: *"We want to keep the interactions and experience very human, so, they meet through video, in between each tool, to really have a debate and talk"* [HO1]. In other hubs, such human connections were maintained using existing tools during incubation activities such as: group messaging apps, video conferencing tools and shared documents. Hubs also reported aiming to replicate some of the incubation activities offered by in-person hubs by running online and hybrid (i.e. some participants co-located and others attending via video conferencing) versions of *"boot camp[s]"* [HO3, HO5], *"demo day[s]"* [HO2], and long-term engagement [HO6].

Interviewees were split in their opinions about the success of such efforts, in particular in terms of their efficiency. For example, when asked about the efficiency of doing the process online, HO6 said: *"yes, absolutely [its efficient], it's the only way we can do it if we are going to operate a global program."* HO2 on the other hand had found that such activities often required more resources than running their in-person equivalents (e.g. due to additional meetings to account for time zones): *"it's not that it is difficult [to replicate], it is inefficient. It just takes more time, more money"*.

HO1, HO4 and HO5 reported that they had developed their own platforms to ease the digital incubation process, and organised their mentorship processes using these customised tools. Functionality in these platforms included support for knowledge transfer *("the platform consists of, we have training modules and videos, we have practical exercises"* [HO5]) and organisation *("the platform allows them to record the outcome date, lessons learned, attached the documents that they need at every step"* [HO4]). Another custom platform had been designed to assist entrepreneurs in aggregating and automatically visualising their business plans so that they could use them *"to look for funding, or to use it as a road map for the team because not all the entrepreneurs want to raise funding, they just want to get started with the project and get their first client"* [HO1]. As reported before, creating such custom platforms can enhance and offer flexibility for a virtual hub's own business model; as they can be used for B2C or B2B or both. HO1 described how marketing their platform as a B2B offering provided a revenue stream that, in turn, enabled them to offer a service to individual businesses: *"the price [registration fee] is very low for the [individual] entrepreneurs. We subsidize them. So, our main revenue model is basically to offer the platform to entrepreneurship programs [institutions]*" [HO1]. HO4 envisaged an alternative benefit in creating their own platform. They aimed to develop a large user base for the platform (by making

participation free), who would then become a market for service-based revenue streams: *"To offer those [incubation] services like marketplace"* [HO4].

6.4. Digitalising and Platform Building

This study has revealed a range of insight into virtual hubs including: reasons why virtual hubs have emerged, what kind of support they offer, and how they deliver this support and extend the incubation process. The virtual model explored in this chapter has been shown to offer opportunities to address limitations posed by traditional in-person hubs, but to also introduce new challenges that relate to the online delivery of incubation and acceleration programs. A core challenge of the virtual model that cuts across my findings is how to deal with the absence of in-person interactions. As my findings show, this absence presents opportunities to expand both participation, in terms of numbers and diversity, and the kind of support offered. However, it also inherently poses new challenges, in particular relating to the experience of interaction between participants. This issue was found to be an important driving factor affecting how the virtual hubs operated, and a range of strategies for both taking advantage of its opportunities, and addressing its challenges, can be seen in my findings. These strategies to best deal with the absence of in-person interactions can thus be categorised in terms of four areas of concern: participants, model, organisation, and digitalising (see Appendix D.4). Therefore, having categorised these strategies and having considered these strategies as an effort of remediating the incubation (Luik, Ng, and Hook 2019), two modes of operation to organise the various elements (activities, human elements, and technology) can be identified here:

i) digitalising in-person incubation (replicating); and

ii) building a platform for users.

6.4.1. Digitalising In-Person Incubation

In the effort of making things work digitally or replicating aspects of in-person incubation, four virtual hubs [HO2, HO3, HO6, and HO7] employed four ways to configure their operation. These digitalising strategies (mode of operation) consists of:

- short-term relocation for non-co-located participants;
- online and hybrid models for delivering incubation;
- organising customised approaches; and
- replicating in-person incubation activities.

I will explain these in turn.

Firstly, the hubs in my study had taken advantage of being virtual to increase participant numbers and diversity. The hubs accepted individual or group participants at different stages of business development, with diverse business focuses, with different relocation constraints and from a wide range of geographic locations. While some virtual hubs did include some in-person interaction, none required participants to relocate to a specific location for a long period of time. This less-resource-consuming participation was seen to lead to a free or cheaper participation costs in many cases. Also, the virtual model, through replicating, was seen to be attractive for hub organisers seeking to establish programs for later stage companies. The virtual model, via digitalising in-person aspects found in traditional hubs, was seen to support participants in idea testing, in developing ideas to products, for finding a viable ways to start a business, and for expanding companies' business operations.

Secondly, I use the term model to refer to the set of ways the virtual hubs were seen to run their programs. All of the virtual hubs in my study had been operating in some

form for at least a year, and were observed to regularly evaluate and improve their models in response to challenges faced and opportunities identified. Through this mode of operation (digitalising: replicating the incubation processes), as I found from the interviews, they [HO2, HO3, HO6, and HO7] can only focus on one selling model which is business-to-customer (B2C). In terms of delivery model, some aimed to provide incubation or acceleration through a fully online service, while others adopted a hybrid approach based on a mixture of online and in-person interactions. The decision to go for one delivery model over another was based on a range of factors, including: the aim to focus on institution-based or individual participants, a change in the stage of business that a hub would focus on, and the circumstances of participants and mentors.

Thirdly, the hubs in the study employed a range of organisational strategies to ensure that incubation and acceleration activities would remain effective when delivered using a virtual model. The virtual hubs, through this digitalising (replicating), were able to provide a range of support also found in their in-person counterparts (e.g., mentorship and access to experts), but chose to alter some aspects of their delivery to ensure that they would work in a mediated process. The hubs conducted pre-sessional activities to prepare mentors and participants for the challenges of the virtual model, which included the selection of suitable and motivated applicants and mentor-participant matchmaking. Alongside pre-arranged mentorship sessions, hubs also organised various activities to support engagement in the virtual process like sending follow-up messages, using motivational techniques and providing channels for group communication among participants.

Lastly, the hubs in the study primarily attempted to support their participants by digitalising a set of incubation and acceleration activities found in in-person hubs. Digitalising in this sense means replicating spaces for interactions (e.g. one-on-one and

group meeting spaces), incubation activities and tools used in their in-person counterparts (e.g. business model canvas and financial projection). This was seen to happen through the utilisation of various existing digital communication channels. It was also seen to happen through appropriate adjustment of some previously in-person activities like boot camps, demo days, progression meeting points, and long-term mentorship.

6.4.2. Platform Building

Aside from digitally replicating, another mode of operation observed was platform building. Some of the participants of this study [HO1, HO4 and HO5] articulated their efforts to build a platform for their users so that the process of incubation is emphasised through their platform. Below are the examples:

- One virtual hub wanted to be an intermediary platform between startup founders and co-founders and the mentors. The organiser [HO1] built a pool of mentors on one side, and a pool of startups (and alumni as well) on the, with all their respective characteristics so that the organiser could do matchmaking. This hub organiser had developed a software-as-service product based on the business canvas incubation tool, so that the two sets of users could be guided through periodic meetings and record progress.
- Another virtual hub aimed to build a large user base by developing a platform that allowed users to participate in developing other users' ideas, which could then be turned into products or businesses [HO4].
- The last example is a virtual hub that developed its platform using a Learning Management System (LMS), in order to offer knowledge transfer services to users [HO5].

Therefore, in this mode of operation, I will explain this platform-building configuration into three points of analysis (based on the strategy from Appendix D.4).

Firstly, these virtual hubs focus on bringing users to utilise their platform (advancing participation) instead of requiring them to relocate to a specific place. In other words, they aim to allow participants to have access to the platform from anywhere — with participants located in a specific place of their choice, or in transit, and at any time, either by accessing the platform 24/7 or via pre-arranged meetings. By developing a platform, these virtual hubs are able to accommodate users as much as possible. Through this mode of operation, these hubs can offer their platform to other institutions (e.g., corporations, governments, foundations, physical hubs or universities) to deliver an incubation or acceleration program. Consequently, the hubs can have more users in their platform.

Secondly, in terms of model, the organisers aim to reach a large user base by simultaneously utilising selling models (B2C and B2B model) and delivery models (hybrid or fully virtual). In increasing the utilisation of their platform, these hubs can operate in a fluid way because they have a 'tangible' product (the platform) to sell — besides the incubation service. They can also mix the selling models and delivery models to increase the usage of their platform. Moreover, some of the hubs configured their model with the aim of creating a scalable service that could reach a large user base. Reasons for these included opportunities for monetisation and to add a large acceleration service to complement an established incubation program (HO4 & HO1).

Lastly, with the platform-oriented approach, these virtual hubs [HO1, HO4 & HO5] organised incubation activities into their platform. These hubs put extra effort into designing and implementing activities to address challenges of going virtual, such as: providing customised content and building gamification into their platforms. They also

integrated/digitalised some incubation tools (e.g., business canvas and financial projection sheet) into their platforms. However, at the time of this study, there was a sense of this leading to less flexibility because the forms (from the incubation tool) to be filled by the participants could not accommodate all of their users' needs. For example, a participant [HP2] with a business idea that has two types of customers: individual and companies could not fill the current template that accommodates only one type of customer. Thus, while platform creation may offer the opportunity for virtual hubs to be scalable for larger user bases, at the same time, this mode of operation has a risk of restricting the flexibility needed by hub participants when developing their companies.

As a bridging conclusion, these two strategies (or, mode of operations) have characterised the virtual hubs with the collective efforts from the organisers, mentors and participants (human elements) in utilising digital communication technologies (infrastructure) for a non-co-located incubation process (activity). A further question from here is what are the conditions that determine the configurations of activity-human-infrastructure in either digitalising or platforming the incubation process?

6.5. *Virtualising* Virtual Hubs

First, I clarify my usage of the terms: *virtualising* and virtual hubs. *Virtualising* refers to looking at the Assemblage as the cause of the actual interactions and configurations, e.g., work-in-progress in digital incubation, digitalising and platform building. And, virtual hubs refer to the actual (the studied) socio-technical infrastructures that mediate the incubation process.

Accordingly, in virtualising the state of affairs of virtual hubs which I elaborated in section 6.4, I begin by arguing: the virtual hubs are also startups that means they are also still exploring and validating their mode of operation. Their statuses, just like the

startups or early business entities they support, are still in flux, and in the process of finding stable ways of operating. This situation where virtual hubs are stabilising their mode of operation is justified by the expression of "virtual" which conveys the contemporary meaning of almost or as good as reality, of alternative to or better than real (Shields 2002; Lister et al. 2009) — the term virtual also gives a sense of provisional status. As the term "virtual" becomes the phrase "virtual hub", the expression then encompasses an expectation and awareness of a virtual hub as a resemblance of, as an alternative to or as a better option than the in-person hubs (in-person incubators and accelerators) — it (the expression of *"virtual hub"*) makes an impression: this [work-in-progress on] digital-based incubation is acceptable because this is "virtual". As we see in the findings, this status as *virtual* has notable effects on how hubs operate and are approached and evaluated by the actors within their Assemblage.

Therefore, in this Assemblage analysis section, I will explain how the combination of work-in-progress digital incubation and the expression *"virtual hub"* (what is done-what is said) works: in the configuration of content/material bodies (in subsection 6.5.1) and in the configuration of expressions (in subsection 6.5.2). Moreover, in subsection 6.5.3, I will also explain how their temporary equilibrium and co-functioning (formalised function) effect the virtual hubs. Later (in subsection 6.5.4), I will explain the transformational nature of the Assemblage (*virtual* transformation) in these virtual hubs, and I will make the connection of this chapter's Assemblage analysis with my previous chapters' analysis of creative hubs.

6.5.1. Formalisation of Content: Digitally Incubating and In-Person Conundrum

Throughout my qualitative findings (in section 6.3) and the modes of operation of virtual hubs synthesised based upon them (in section 6.4), there is a common thread that digital incubation is shaped by the absence of in-person interactions. On the one hand, there is a set of opportunities that result from doing startup incubation digitally. These include: advancing participation, customisation of services, having B2B and/or B2C selling models and being relatively efficient (although participants have a split opinion on this). On the other hand, a set of challenges arises such as a requirement for more resources (e.g., time and money), a decrease in programme completion level (e.g., 30% and 70% of the participants) and technical-operational challenges (e.g., different time zones). This in-person conundrum is seen to drive the hubs to develop the two strategies (modes of operation) described above (in section 6.4 above): digitalising and platform building. By utilising the Assemblage way of thinking (Deleuze and Guattari 1987), I offer to look at these opportunities, challenges, and strategies as a result of *the machinic assemblage of bodies* (form of content). In doing so, I explain this side of Assemblage as the configurations of activity-human element-infrastructure under the condition of the 'in-person' conundrum.

The absence of in-person interactions, as they were normally present in in-person creative hubs, is seen to the parties involved a set of conditions in their configuration:

(i) *flexible with rigorous*,

(ii) *globally with customised*, and

(iii) *technological with humane*.

Flexible with rigorous means the activities look flexible in terms of time and location but have rigour in terms of frequency of activities and content of the incubation. It is true that virtual hubs' participants do not have the same office-hours and co-present experiences as those in physical hubs. Yet, the virtual hubs' organisers, mentors, participants, digital technologies, and mentoring were seen to be configured by a *force* of delivering the incubation processes that meet the needs of the non-co-located participants. This was a force that was seen to be related to the provisional nature of a creative hub as a reliable-temporary space for provisional entrepreneurs or startups. The provisional nature of a hub provides a sense of flexibility or fluidity and at the same time, has a set of activities that support the hub participants.

Next, *globally with customised* acts as a passion or a utopia in democratising access to the services or support provided by the hubs. That is to say, geographic situations, personal and business situations of the participants, the ability of technological infrastructure and the set of activities that can be appropriately replicated in the virtual hubs are working together under the rhythm of 'to be global'. More importantly, global here means the configuration of human-infrastructure-activity is able to pass through 'tangible' differences (cities, countries and continents of the participants, early- and later-stage startups, and individual, group and corporation organisers) and 'intangible' differences (participants' motivations for building businesses, and organisers' motivations for establishing virtual hubs). This passion for working across boundaries requires more than a 'mass' approach, but rather, a customised approach (e.g., customised sessions, contents, interactive and gamified platforms) also appears within this intent. However, working with a range of participants by using such bespoke approaches requires increased effort (e.g., time, people and eventually cost). Thus, this next point focuses on answering this resource challenge.

Lastly, *technological with humane* refers to a desire to employ digital technologies with the aim of respecting the human experience found in physical hubs. Although the experience of working in a virtual hub might not be the same as in an in-person one, it is still a human experience that is mediated by virtual hubs. This desire is inseparable with the urge to be global and to customise, and it is manifested through the utilisation of a set of digital tools that are able to do one-to-one and one-to-many communication (e.g., Skype, Zoom and WhatsApp), able to run mass and personalised 'courses' (e.g., Moodle, Blackboard and Customised software), and able to digitally replicate incubation tools (e.g., business canvas model, financial projection sheet, project management sheet). In aiming to keep the human interactions, the virtual hubs utilise digital tools that can give face-to-face experiences such as video conferencing, frequent contact points and a set of replicable incubation activities (e.g., boot-camp and online demo day). As thinking through Assemblage can open up new possibilities, this desire to be technological and also humane can have other manifestations such the choice to run online Hackathons, online games (e.g., MMOG), and create online co-working spaces in which platforms can keep human interactions.

6.5.2. Formalisation of Expression: *"Virtual Hub"* Expression

The legitimate expression for the work-in-progress of digital incubation is the *"virtual hub"* (form of expression) — my emphasis through double quotation marks and italic style denotes the expression of *becoming a virtual hub*, a virtual entity. As I have briefly explained (in the opening paragraph of section 6.5.), the expression of *"virtual hub"* encompasses an expectation and awareness of a virtual hub as a resemblance of, as an alternative to or as a better option than the in-person hubs. It also contains the performative aspect (incorporeal transformation) by giving the 'status' of provisional or

temporary for the actual virtual hubs. Therefore, in the following paragraphs, I will explain how this virtual entity of expression (i.e., *"virtual hub"*) is manifested through the ideas, statements and evaluative expressions regarding virtual hubs.

Firstly, I will give a few examples of how *"virtual hub"* expression works through rhizomatic connection (Assemblage logic) rather than mirroring/representational relation. In the representational logic, if the essence is 'virtual hub' then the actual expression should be only "virtual hub". Differently, in the Assemblage logic or collective assemblage of enunciation (Deleuze and Guattari 1987), the actual expressions arranged by the *"virtual hub"* can be: "we can take it around the world [HO4], "from anywhere in the world" [HO6], "we want to keep the interactions and experience very human" [HO1], "we meet with these teams three times a week, the rest of the time was ad-hoc time where we could talk to teams" [HO2], "the platform" [HO1, HO4, and HO5]. These examples show a range of expressions that are tied up by this form of expression. The two statements (from HO4, HO6) related to advancing participation are the communicative manifestation of *"virtual hub"* as better than the in-person. The statement of keeping the interactions (from HO1, HO2) related to a humane approach is a manifestation of *"virtual hub"* as almost like the in-person. Similarly, "platform" with its multi-faceted meanings either technically, socially, business model or metaphor (Gillespie 2017; Leurs and Zimmer 2017; Andersson Schwarz 2017) has a connection with a meaning of *"virtual hub"*: can be better than the in-person one. In short, these examples have emphasised the work of form of expression as an 'arranger' or an 'organiser' of signs or actual expressions.

Secondly, this form of expression (*"virtual hub"*) also organises below-expectation statements regarding virtual hubs. For example, "they don't want to do homework…" [HO1], "it is inefficient. It just takes more time, more money" [HO2], and

"we just basically keep sending them messages on that you are left behind" [HO4]. These examples have implied that "there exist forms of expression without signs" (Deleuze and Guattari 1987, p.67) because "*virtual hub"* can also mean as good as or better than the in-person hubs. Therefore, through these examples (including in the previous paragraph), we can perceive that this *"virtual hub"* is an example of a multiplicity (or a 'pure expression' or a becoming) that can be manifested to various actual expressions such as ideas, statement, and evaluative expressions. It makes connections with those actual expressions through affiliation rather than filiation (Deleuze and Parnet 1987), which is fluid and can connect with any kind of expressions.

Thirdly, this *"virtual hub"* also sets an expectation regarding the virtual hubs. Besides the two points above, the form of expression seems to 'protect' the configuration of bodies (as explained in subsection 6.5.1.). For instance, the statement of "we are still startups ourselves" is working under the domain that the current state of affairs of virtual hubs is a work-in-progress — meaning a temporary one with a potential to be something better than or almost like the in-person. By proclaiming a virtual hub's status as s startup, the organisers also 'protect' themselves from the possibilities of below expectation results or even worse, failure. At the same time, this actual expression also reminds us that the virtual hub is also a provisional entity, just like startups that struggle to maintain their continuity. Therefore, this form of expression brings the impression that the incubation process through virtual hubs — regardless of whatever the outcome would be — is still acceptable because this is "virtual".

6.5.3. Reciprocal Presupposition and Formalised Function

Before moving on to the second part of my Assemblage analysis, which is territorialisation analysis, I will analyse the reciprocal presupposition between the form

of content (from subsection 6.5.1) and the form of expression (from subsection 6.5.2). In short, this reciprocal relation (unstable equilibrium) appears like this: *the work-in-progress (ups and downs and strategies) of digital incubation conditioned by the absence of in-person interactions is legitimised by the "virtual hub" expressions*. Therefore, in the actual implementation, activity-human-infrastructure is configured under the condition of flexibility with rigorous, globally with customised and technological with humane. Moreover, this bodies' configuration, together with its work-in-progress results, is supported by the meaning and performative aspect of *"virtual hub"* expressions. For instance, the efforts of the organisers (e.g., customise the incubation and frequent contact points) to deal with the issues of incompletes and time-consuming are 'normalised' by an argument that those downsides also happen in in-person hubs. The 'experimentation' from the organisers in terms of finding the best way to operate is legitimised by the idea of being a work-in-progress. Platform — as a metaphor or as a socio-technical infrastructure or as a business strategy — is emphasised by some of the organisers because of its 'meaning' as something different or better than the in-person. The flexibility of contact point and the rigour of the process have attracted participants but at the same time, the *"virtual hub*" (form of expression) rationalises their expectation. Moreover, this equilibrium does not stop here, it also formalises the function of this Assemblage.

Having analysed the formalisation (form of content and form of expression) including the point of equilibrium of this Assemblage, I then define the formalised function as: *to virtually incubate non-co-located startups and entrepreneurs*. The virtual can imply for nearly, better, or alternative, and it has also a limit. To virtually incubate can be defined as fully virtual or a hybrid way of incubation, which might take a short-fixed period of time or a longer term in a high or low intensity approach. Non-co-located

startups and entrepreneurs refer to those who are in a provisional state that need support but cannot relocate permanently or in a longer time with any kind of reasons: business, personal, working full-time. This function is stretched to its boundary when a virtual hub leases its platform to other partners (institutions) to deliver an in-person programme. That virtual hub might still incubate those co-located participants; in other words, it virtually incubates the distant co-located startups.

This reciprocal relation of the work-in-progress of digital incubation and the *"virtual hub"* expression raises a concern for the future of virtual hubs, specifically, in relation to their status as being provisional. By critically looking at this equilibrium, virtual hubs may face a conundrum regarding their "leeway" to be what they need to be in their own terms. The "leeway" that can be interpreted as 'we are going to be better' and may be an acceptable practice for the participants in the meantime. However, this "leeway" can be interpreted as 'buying time', and this interpretation might be sympathetically accepted by those who are involved. Therefore, through this analysis, virtual hubs are shown to be at a crossroads. They are at a critical point that demands them to, in Assemblage terms, experience *virtual* transformation.

6.5.4. *Virtual* Transformations

Virtual transformation refers to the process of territorialisation — transformational movement in the virtual plane — of an Assemblage that brings about changes or variations in the actual virtual hubs. As I have presented from the current virtual hubs, the transformation from the in-person hubs to the virtual hubs happens in the aspects of who can participate, of how the model and organisation of the incubation works, and of what activities that can be replicated. In this subsection, I will do the following:

(i) Analyse the virtual transformations in the space of the *in-between* in which they are *(a)* from the co-location of activity-human-infrastructure to the non-co-located one, and; *(b)* from the supportive expression related to *"more than just space"* to the normalising expression of *"virtual hub"*.

(ii) Explain this *virtual* transformation in the current virtual hubs through their variations.

Although there are actual movements of the bodies, such as participants working from their work desk instead of from a hub desk and meetings convened in a virtual space rather than in a physical hub space, they do not actually capture the territorialisation (or virtual transformation) of an Assemblage. Thus, instead of focusing on the movement of things, which is self-evident without using this analytical tool — one can perceive that without using Assemblage concept as a lens, I focus on the movement of 'the conditions that function the configuration of bodies' (in the space of the *in-between*) of the virtual hubs. The question is then related to the movement from which point to which point in which space because it cannot be obviously observed just like the movement of physical bodies in a physical (or actual) space. Here, the virtual space for meeting or communicating in a virtual hub is actual too. The space of the *in-between* (*virtual*) is where the conditions operate, and this is where territorialisation of an Assemblage happened.

6.5.4.1. *Virtual* Transformation of Assemblage

My first point relates to *virtual* transformation in the space of the *in-between*. The transformational movement of the form of content happens in relation to the conditions of both spatial and non-spatial co-location and of the migration of the form of expression happens in relation to supportive-normalising expression. The elements involved in a

spatially co-located hub and a non-co-located hub are human elements, activities, and infrastructures — as I have also established in chapters 4 & 5). The difference of the activity-human-infrastructure configurations at the physical creative hubs from the virtual hubs' configuration is the way they function and were configured by a specific condition. For example, from my first study (in Chapter 4) in the spatial co-located one, one of the conditions is *activities and events that brought and catalysed collaboration*; from my study in this chapter in the virtual, one of the conditions is *global with customised*. Consecutively, that condition (i.e., *activities and events*) brings various human elements to be eagerly involved in a Hackathon and an informal bottom-up Friday night event in the creative hubs' communal space; and, *globally with customised* makes the organisers consider geographic proximity of participants and mentor and customised contents in incubating through digital technologies. This changing of condition with its actual effects is the example of territorialisation (transformational movement) from the form of content of in-person creative hubs to the form of content of virtual hubs.

A critical reflection regarding this claim is what substantiates my analysis that the form of content in the first study transforms into the form of content in this third study. This reflection is also reinforced by the fact that what I have empirically observed is the actual, hence, only the actual movement can be inferred from the findings. So, my first answer, as it was empirically supported in all my cases, Assemblage of the creative hubs has a formalised function to provisionally support the provisional. In this sense, the form of content (including the form of expression) works to condition the activity-human-infrastructure towards that formalised function. The way Assemblage's forms work is through multiplicity (not a discrete one, but a continuous multiplicity); thus, either in the in-person hubs or in the virtual one, the transformation of their respective forms happens within the range (or the limit) of that function.

Also, in Chapter 4, I have established a movement from a more established (institutional) arrangement (e.g., in cluster and district) to the less established (provisional) arrangement, i.e., in the studied creative hubs. In the literature review (a historical view of these two 'arrangements'), there is a 'demarcation' line between the like of clusters or districts and the like of co-working space, incubator, studio or lab or workshops. This is a boundary that is defined not by co-location (because both kinds of the arrangement have this trait) but defined by something else (in which, I argue, by the formalised function, or in general, the Assemblage). Therefore, the proliferation of the kinds of creative hubs (for example, at some point it has 14 kinds in the ECHN project as described in my literature review, or, the kinds of virtual hubs here in this chapter) makes sense because of this formalised function. Following my analytical logic of Assemblage, the crux of the matter here is this multiplicity (a discrete one) of creative hubs is caused by a multiplicity (a continuous one) of Assemblage. One creative hub has its Assemblage and another has its Assemblage.

Similarly, in the expression plane, territorialisation (transformation movement) happens from *"more than just space"* to *"virtual hub"*. As established in Chapter 4, *"more than just space"* is the form of expression because it organises conversation and ideas, creates expectations, and labels the involved elements for more than just renting a working space. This form of expression then transforms as *"virtual hub"* because the expression-condition in a virtual hub is not about making a space lively, but it is about the properness or legitimation of the work-in-progress-support given through digital tools. Therefore, in the virtual hubs, we can see the use of expressions such as: "we are still startup ourselves", "platform", and "keep the interactions and experience very human". These expressions were conditioned by *"virtual hubs"*, instead of by *"more than just space"*. Thus far, this transformational movement (in both the content plane and the

expression plane) happens in the relation between in-person hubs and virtual hubs. Yet, the actual effects of this movement can also be seen through the variations of the virtual hubs.

6.5.4.2. *Virtual* Transformation and Variations of Virtual Hubs

The second point is *virtual* transformation brings about variations of virtual hubs. Different actualisations (practicalities) in the observed virtual hubs occur because of the virtual transformation. As I have established above regarding the virtual hubs Assemblage, the ups and downs and strategies of digital incubation conditioned by the absence of in-person interactions (form of content) are legitimised by the "*virtual hub*" expression (form of expression). Again, this territorialisation-analysis point is related to the multiplicity of an Assemblage. The multiplicity of an Assemblage does not represent an accumulation of all the possibilities; just like Deleuze and Guattari's (1987) account on the multiplicity of rhizome that it is not like: "a multiple derived from the One or to which One is added (n + 1)" (p.21). Thus, different practicalities of the virtual hubs do not work like 'deriving' from the Assemblage of the virtual hub. Variations of virtual hubs happen because of the changing dimension in the multiplicity of Assemblage, and in practice, changing conditions of the virtual hubs, as in the examples below.

Two examples here, as I found in this study, illustrate the variations. First example, a virtual hub organised by a multinational corporation focuses on the late-stage startups operate through a short-intensive off-line meeting but the rest of the program is held online because "the physical space is no longer make sense because that type of startup is growing out their team and does not see any needs to relocate to a new location" [HO6]. The participants come "from anywhere in the world once the model is virtual" and this approach is "absolutely [efficient], it's the only way we can do it if we are going

to operate a global program" [HO6]. The second example is a virtual hub that operates with two models (B2B and B2C) simultaneously, and it has "reached 300" participants [HO1]. As a result, "the price [registration fee] is very low for the [individuals] entrepreneurs. We subsidize them. So, our main revenue model is basically to offer the platform to entrepreneurship programs [institutions]" [HO1]. As I am looking for the commonality of conditions through Assemblage lens, at the same time, this philosophically-informed framework also allows me to look at the variations of virtual hubs with their subjectivity. A view that is related to the *multiplicity of an Assemblage* which is my last point of this section and my accumulated account on creative hubs.

6.6. Conclusion

In this chapter, I have established intra-chapter and inter-chapter analysis using Assemblage. From my study on the virtual hubs, I have categorised the support offered and identified qualities of 25 global virtual hubs. I have also interviewed seven hub organisers and three participants to construct four themes: advancing participation, "we are still startups ourselves", customisation and managing incompletes, and exploring online ways as my in-depth understanding on digital incubation. Finally, I have synthesised two strategies: digitalising the in-person and platform building as ways (mode of operation) of managing the absence of in-person interactions. Through *virtualising* virtual hubs, I established the reciprocal presupposition of the form of content and form of expression as: the work-in-progress (ups and downs, and strategies) of digital incubation conditioned by the absence of in-person interactions (form of content), which is legitimised (normalised) by the *"virtual hub"* expression (form of expression). The formalised function for this Assemblage is to virtually incubate the non-co-located participants. Also, within the same Assemblage lens, I analysed the variations of the

studied virtual hubs through *virtual* transformation: the transformational movement *(i)* from the co-location of activity-human-infrastructure to a non-co-located version and *(ii)* from the supportive expression related to *"more than just space"* to the supportive-normalising expression of *"virtual hub"*. Moreover, different actualisations (practicalities) in the observed virtual hubs (one virtual hub is different from the others) occur because of this virtual hub Assemblage (form of content-form of expression, formalised function) experiences the *virtual* transformation.

CHAPTER 7

From Co-Location to Assemblage

7.1. Introduction

Throughout chapters 4-6, I have demonstrated my employment of Assemblage in my three empirical studies and the resulting analysis. In particular, I proposed and discussed a view of creative hubs as Assemblages rather than only as co-locations of different elements. In viewing these studies through a meta-level analysis, this penultimate chapter then will provide two main points: my inter-chapter analysis and my reflection of Assemblage analysis. In Section 7.2, I will explain why viewing creative hubs as Assemblage matters and will also formulate the dual-implication of this view: setting a 'limit' and providing a creative 'map'. In Section 7.3, I will explain the limitation regarding the scope of Assemblage analysis, in which I will focus on the concern of network and power relations in the creative hubs and on the concern of companies closing or individuals leaving the creative hub.

7.2. Inter-Chapter Analysis: From Co-Location to Assemblage

In this inter-chapter analysis, my accumulated point is the transformation from co-location to Assemblage (multiplicity). In the conclusion of Chapter 5, I set out to explore creative hubs with the absence of in-person co-location to substantiate my proposition: "creative hubs as assemblages". Thus, having analysed a sample of virtual hubs by categorising the support they offer and their qualities (in subsection 6.3.1.), by building themes related to digital incubation (in subsection 6.3.2.) and by sensitising the

strategies of virtual hubs (in section 6.4.), and by *virtualising* the virtual hubs (in section 6.5.), I firmly confirm my central idea of this thesis that the Assemblage of creative hubs (bodies organised in such a way – expressions arranged in a new way with a performative role) functions to provisionally support the provisional.

Therefore, I start with a summary of the form of content & form of expression with their reciprocal presupposition and formalised function from each case study:

- In chapter 4, the Assemblage consists of the in-between space of work-share-play with its set of activities (form of content) and *"more than just space"* (form of expression), and its formalised function is to provide provisional support to the precarious startups and tenants.
- In chapter 5, the accelerator assemblage works through rapidly increasing the growth of startups (form of content) and the regime of signs *"seed funding"* (form of expression), and its formalised function is to intensively seed the scalable startups.
- In Chapter 6, the Assemblage is work-in-progress digital incubation conditioned by the absence of in-person interactions (form of content) that is legitimised by the *"virtual hub"* expression (form of expression), and its formalised function is to virtually incubate the non-co-located participants.

On this note, viewing creative hubs as assemblages means looking at the virtual entity (cause or condition) that 'selects', organises and structures the configuration and interactions of bodies (such as physical body, a biological body, a social body and a linguistic corpus) as seen in each study chapter. Specifically, this is a virtual entity with a multiplicity of dimension.

Regarding this multiplicity, Assemblage is a multiplicity that works through rhizomatic connections, instead of like an essence or an ideal that operates through representational/mirroring relation. It does not work like deriving from an assemblage (the One), rather, an Assemblage as a multiplicity means it works by increasing its dimension in the space of the *in-between* — transformational movement of an Assemblage. Increasing dimension here means changing nature (Deleuze and Guattari 1987) or, in this case, changing condition so that when a condition changes so does a concrete creative hub. I articulate the multiplicity of Assemblage in my three case study chapters to understand the multiplicity of creative hubs through discovering the commonality between the three 'clustered' approaches and their analysis. The crucial point here is the commonality of causes is the Assemblage of creative hubs, but virtually, one Assemblage does not mean singular but a multiplicity.

Regarding the co-location of heterogeneous elements (like in an agglomeration or localisation of businesses) in creative hubs that is established in the literature review, I can now offer a new perspective (with actual examples) on looking at creative hubs and on the implications, such a view brings about. Through my empirical studies, co-location is seen as a means of operation that requires different elements to gather in a physical space; while another means is through a virtual model — i.e., co-location is just one of the possible the modes of operation of a creative hub. Moreover, through my Assemblage analysis, co-location may imply for only one side of Assemblage; a mode of operation in the machinic assemblage of bodies (form of content). What we have to look at is more to the condition (thinking virtually) of this co-location so that we can open-up potentialities from the plane of *virtual* instead of from the actual one. An improvement or advancing of creative hubs through, for instance, variations of co-location method/technique would only cover one side of the effort. Thus, simultaneously, we should also consider another

side of Assemblage: the collective assemblage of enunciation (form of expression) in advancing creative hubs. As explained in each chapter, the role of this 'becoming expression' is not only for arranging signs in a new way so that it can have meaning, but also, to have a performative aspect. For instance, the effort of digitalising incubation is supported by the expression of *"virtual hub"*.

As half of the last paragraph above has indicated why this view of creative hubs as Assemblage matters, then my last point here is to formulate the dual-implication of this view, which is to set a 'limit' and provide a creative 'map'. Following the summary in the second paragraph of this sub subsection, I synthesise the conditions that define creative hubs: a creative hub is a provisional entity that provisionally supports the provisional. Thus, this condition sets a limit for creative hubs and at the same time, provides a map to understand the way creative hubs operate within this limitation.

Here, 'set a limit' means the *virtual* transformations and the actual variations of creative hubs, including their operations and configuration of bodies, are happening within a range of provisional support. Once a transformation is moving towards or goes beyond this provisional (limit of this Assemblage), then a line of flight (de-territorialisation) of the Assemblage brings about destabilisation in a creative hub. For example, in Chapter 4, when a creative hub wants to expand just to accommodate a large startup company, it has to consider the conditions such as smallness of the team, experience sharing and community values and whether this expansion fits with the *"more than just space"* expression. In Chapter 5, the startup accelerator operates under the condition of an intensive startup seeding which means, for example, basic mentorship classes that are associated with incubation are not well-accepted by the scalable startup companies in this seeding process, while the networking events and one-on-one sessions

are well-accepted. This startup accelerator also operates under the condition, or expectation, set by the *"seed funding"* expression.

At the same time, the Assemblage of creative hubs set out in chapters 4-6, and also summarised in the second paragraph above, provides a map in understanding and advancing creative hubs. A 'map' refers to a way of reading and making sense of the changing condition of creative hubs; a 'map' to read interrelations of the conditions and interrelations of the heterogeneous elements of creative hubs. Following this map, advancing a creative hub is not just achieved by modifying the current configuration of human-activity-infrastructure but also by modifying the conditions (form of content and form of expression) of such a configuration. An example of advancing a creative hub (for example, a virtual hub) through this creative map is supporting digital incubation through a platform building strategy specific to aspiring startup founders in remote islands/locations; and at the same time, committing with the *"pre-seed participatory funding"* expression instead of the *"virtual hub"* expression or the *"seed funding"* expression, which brings different expectations.

7.3. Assemblage Analysis: A Reflection

In my elaboration of this thesis' research question (Section 1.2), I present an Assemblage as a '*thing'* that makes a thing function (i.e. a creative hub). In other words, after my exploration and analysis using Assemblage, I argue that the provisional machine that works to support the startups is manifested through a double-configuration in creative hubs. However, firstly, we can utilise other frameworks to explicitly analyse the importance of the actual interconnectivity (network) and interplay (power relations) of the heterogeneous elements of a creative hub in supporting its hub members. Secondly, in making a thing function does not mean that the failure of startups or individuals leaving

the creative hubs is not a concern of Assemblage analysis; on the contrary, it is indeed a concern too. Having considered these two concerns, I use this section to reflect on the scope of Assemblage analysis in relation to the analysis of network and power, and to explain (through the lens of Assemblage) the failures of startups or individuals leaving the creative hubs.

Throughout this thesis, I have demonstrated my Assemblage analysis in the above three chapters, and this analytical framework works well for unravelling the conditions behind a specific state of affairs in a given setting, for instance, interactions in creative hubs. Assemblage analysis helps me to view the actual interactions in creative hubs from that way of thinking, and also to propose a new way of looking at creative hubs. However, to expect a new way of doing or developing a creative hub, which implies for a kind of 'toolkit' or practical recommendation, is a concern that can be answered by the key themes of my empirical studies. Those themes, for example, in Chapter 4 are: small teams, hub ethos, infrastructure, activities and events, knowledge transfer, and community values that are specific or subject to the configuration of the studied hub but they can manifest differently in different hubs. How they manifest differently or, rather, what makes them manifest that way is a question that Assemblage analysis can answer more comprehensively. Therefore, my reflection from my employment of Assemblage will centre on:

i) the scope of Assemblage analysis, including what other frameworks such as Actor-Network Theory and Foucauldian Power can reveal; and

ii) exploring how assemblage analysis relates to failing startups or individuals leaving creative hubs, which is an aspect not explored in my empirical work.

Firstly, throughout my elaboration of Assemblage and other related concepts in subsubsection 2.2.2, I have differentiated my understanding of Assemblage and subsequently, my employment of Assemblage. However, in this reflection, I would like to focus on the question of network and power. An alternative model that can be used to understand the network of heterogeneous elements in creative hubs in Actor-Network Theory (ANT). As I have also discussed in Section 2.2.2, the focus of ANT to the actual can describe the role of an actor played in a particular network. For example, the presence of an investor in a startup accelerator can be analysed through ANT so that we can, for example, understand what does that actor prescribe to the network. Conversely, with the absence of that investor, then the configuration of that network might not be working properly or might not working at all. Moreover, we can analyse other actors such as non-human actors like technologies involved in a creative hub.

Also, although this analysis does not explicitly mention or analyse power relations or power structure, the 'deterministic' force of an Assemblage itself would imply for such power relations. For example, the development of community rules in a hub by hub management, and the decision from an accelerator to select which mentors are to be involved in or which participants to be selected by in a startup accelerator. The community rules or 'mechanism' to keep the working space as a supportive environment is a consequence or 'effect' of the "more than just a space"; because of this shared idea or 'motivation', the hub management took action (exercise their power, if I may) to preserve the community values and the relationship built in their hub. Similarly, the authority of the hub management (including the partner VC) to select which participants or mentors that are suitable to the programme is a result of Assemblage ("seed accelerator"–"seed funding"). However, further research on power relations (Foucauldian view, including dispositif) in the creative hubs would give a more explicit understanding

on answering a question such as how does the interplay of mentors (who are also investors) and the participants (startup companies) influence the mentorship? Or in a broader sense, how do the power relations amongst actors define the interactions in creative hubs?

Secondly, another reflection point is this thesis's Assemblage analysis of creative hubs and failing startups. My first reflective account is my empirical findings, which was informed by those who were still working in the hubs and by those who are still operating their business, have brought my analysis to lean more to the data provided by these informants. As consequence, the empirical data upon which the analysis is based does not extensively address the hub members who are not currently present in creative hubs, e.g., failing startups or individuals leaving the creative hubs, who can open up new information regarding exiting an Assemblage. Although there is an empirical finding (Chapter 4) that mentions how the hub members responded or created a mechanism to keep the failing startups in the ecosystem or the hub, my employment of Assemblage here focuses on the re-configuration of activities, infrastructure and human elements to deal with that occurrence.

Also, my second reflective account regarding failing startups is my employment of Assemblage analysis. Through the formalisation analysis (form of content, form of expression and formalised function), a creative hub with the function to provisionally support the provisional might imply for a 'successful' assemblage but it does not really work that way. Hypothetically, a startup company in the studied startup accelerator failed; I define "failure" here as failing to present on a Demo Day and to receive an investment so that that startup would have to be closed down by its founders. Assemblage analysis can be critically employed to examine this phenomenon of failing startup(s) or individuals. The critical question that can be asked further is: are these creative hubs

creating a ‘failing’ machine instead of a ‘provisional’ machine in supporting the startups? Moreover, with the formalisation of content and expressions in mind, we can also ask a question such as: are these configurations of bodies and expressions in creative hubs creating a ‘particular configuration’ that makes a startup fail? These questions might share similar concern in understanding failure in startups with studies that aim to explain why a startup fails, such as comparative optimism (Ucbasaran et al. 2010), overconfidence in market entry (Daylian, Moore, and Haran 2015) and fallible judgement (Hogarth and Karelaia 2012). Or, with a study that aims to explain how entrepreneurs deal with the stigma associated with venture failure (Singh, Corner, and Pavlovich 2015).

7.4. Conclusion

In my inter-chapter analysis, I have connected the chapters 4-6 through my analysis: *from co-location to Assemblage*. I offer the perspective that creative hubs as assemblages (bodies organised in such a way – expressions organised in a new way with a performative role) that function to provisionally support the provisional; also through this perspective, creative hubs experience transformational movement. Accordingly, through the Assemblage lens, co-location is viewed as a mode of operation of creative hubs in which different elements to gather in a physical space.

Moreover, in this chapter, I provide a reflection regarding the scope of this Assemblage analysis, in which the question of power can be explicitly analysed further with other frameworks such as ANT and Foucauldian power. Also, regarding the question of those who fail to develop their startups, different research strands can be utilised for further understanding.

CHAPTER 8

Conclusion

8.1. Introduction

As they were reviewed in the literature chapter and studied in the field study chapters, creative hubs are shown to matter because of their specific spatial co-location quality, and also, because of the 'internal' processes (e.g., a range of activities, support, and community values) experienced by their members. Fundamentally, this thesis, through its analytical framework, proposes that the processes and elements in creative hubs are deliberately (not arbitrarily) configured through their Assemblages. Thus, to briefly answer the research question, the Assemblage of a creative hub works by requiring, organising, and structuring heterogeneous elements (i.e., human elements, activities, infrastructure, terms used and themes in conversations, and expectations of creative hubs) to provisionally support the provisional. In its practicality, the Assemblage works differently in each hub to condition the hub and its interactions — an elaboration of how this Assemblage works in different contexts is presented below in Section 7.2. Therefore, by unravelling the Assemblages that condition the studied creative hubs, this thesis describes a multiplicity of creative hubs, a view that supports creative hubs to strengthen their *locus* both in the growth and the discourses of creative industries.

8.2. Contributions

This thesis presents two categories of contribution that are *(i)* a new perspective on creative hubs (understanding) and *(ii)* a method of applying Assemblage as an analytical framework (approach).

8.2.1. Understanding Creative Hubs as Assemblages

In understanding creative hubs, this thesis has employed two-interrelated research activities, which are field studies (data collection and theme or pattern building) and Assemblage analysis (analysing the field studies' findings with Assemblage). As each field study has its uniqueness, the field studies can capture the interactions in the studied creative hubs, and the Assemblage analysis does not seek to synthesise the findings into a singular essential cause, but rather emphasises the multiplicity of creative hubs.

8.2.1.1. From a Study of a Software Incubator, an Innovation Space, and an Entrepreneurship Centre

In the first study (in Chapter 4), Assemblage is used to frame the relational aspects of creative hubs as aspects of *the in-between*. These relational aspects are the conditions of the interactions of heterogeneous elements that support the startups in creative hubs. Thus, for example, activities and events that seem to connect humans and infrastructure are also bodies (Figure 1 in section 4.3). What connects these bodies are the relational aspects: *working in small teams is valuable*; *neutrality of the hub*; *supportive value of infrastructure*; *activities and events that brought and catalysed collaboration*; *experience sharing related more to business than technical*; and, *realising and maintaining community values*. Moreover, this study uses the Assemblage framework (as elaborated

in Chapter 3) to further explain how these conditions work to define interactions in the creative hubs studied.

Through formalisation analysis (in subsection 4.4.1), on the one hand, interactions of humans-activity-infrastructure in the creative hubs was seen to be organised by the need to make them more than just co-working space, and, on the other hand, 'interactions' of expressions (words, ideas, discourses) were arranged by an urge to express that a creative hub is *"more than just space"*. Both interactions operate in their respective plane to connect the heterogeneous elements, but the two formalisations reciprocally need each other to form an Assemblage. Thus, the reciprocal presupposition of this Assemblage is manifested through the observation that: instead of going to a fancier or more formal space, startups decide to go to an 'in-between' space of work-play-learn to interact with like-minded people (form of content) in the belief that the affordability of that space, the previous success stories of tenants, and the collaboration and supportive environment they will get by co-locating at that space (form of expression). In other words, although creative hubs look provisional, this is fine as long as they can provide "*more than just space*" support. How far this Assemblage can go or function is determined by its formalised function, which is to provisionally support the provisional.

Through territorialisation analysis (in subsection 4.4.2), the provisionality of creative hubs is reflected through a transformational movement from a more established or institutional arrangement of districts or clusters. Human-activity-infrastructure might be the same in those two arrangements but that is not the case for their interactions and their mode of operation. Similarly, the words or expressions used regarding a space might be the same in the conventional letting (i.e., landlord-tenant) regime of signs and in the *"more than just space"* (i.e., creative hubs) regime of signs, but the latter presents a new way of organising signs that capture the range of supportive expressions and has a new

performative aspect. The transformational movement does not only bring the two forms to territorialise in creative hubs, but it also brings the variations of creative hubs. Although the two forms (of content and expression) are not static and always in motion, they have a preference in finding a territory (deterritorialisation – reterritorialisation) such as *(i)* in the territory of offering incubation-like support for only software startups, *(ii)* in the territory of offering a set of innovative bodies, services and networks for the hub members, and *(iii)* in the territory of offering educational entrepreneurship support for the aspiring founders. The transformational movement does not stop here; it can bring the Assemblage to the territory of different kinds of creative hubs.

8.2.1.2. From a Study of a Startup Accelerator

In the second study (in Chapter 5), this chapter frames the findings of an ethnographic study of an intensive hub (i.e., startup accelerator) as an accelerator assemblage. As *an entity in the space of the in-between*, the accelerator assemblage actively (re)structures the interactions of heterogeneous elements (e.g., human-activity-infrastructure and terms-themes-expectations). Three patterns arise from this 300-hours of fieldwork that represent three key terms that serve to unravel the accelerator assemblage: intensive startup seeding, racing to the Demo Day and the expression of "securing an offer? I can do as well". These three patterns consecutively correspond with formalised function, form of content (machinic assemblage of bodies) and form of expression (collective assemblage of enunciations).

Through formalisation analysis (primarily in subsection 5.4.1, 5.4.2 & 5.4.3), the accelerator assemblage that consists of *"seed accelerator"* (form of content) and *"seed funding"* (form of expression) has the formalised function *to intensively seed the scalable startups*. Furthermore, in the relation of reciprocal presupposition between the two forms,

accelerator assemblage, through a seeding programme, intensively accelerates the growth of potentially scalable startups (*"seed accelerator"*) and deliberately arranges the usage of terms, themes, and expectations, in short, expressions, so that that *"seed funding"* legitimises the intensive seeding programme. *"Seed funding"* does not only mean the amount but the meaning of that amount, the intrinsic value, the prestige, and the expectation it creates. The reciprocal relation was seen in this study as, for example, working under the intensive timeline and running the startup at the same time is acceptable because of the *"seed funding"* expressions. Another example is a Demo Day would be meaningless if there is no recognition in terms of funding expressions: either an offer or a quasi-offer.

Through territorialisation analysis (primarily in sub subsection 5.4.4.2), the *in medias res* status of the startup accelerator allows for mapping the potential of change. As analysed from this study, the potential changes are the usage of an alternative expression than "alumni" and re-organising the timeline and operational detail to accommodate the actual deployment of an improvement. Also, a change can happen in terms of the continuity of the current startup accelerator such as the re-formation by the collaborators (the corporate and venture capital). Moreover, through the transformational movement of the forms (*"seed accelerator" – "seed funding"*), we can think of other kinds of startup accelerator, for example, an accelerator that focuses on scaling-up rather than seeding startups. Finally, we see that the Assemblage of startup accelerators and the Assemblage of creative hubs (from the first study) apparently look different, they virtually share the same Assemblage. This is because an Assemblage is not an essence that works through mirroring, but rather is a multiplicity that works through a rhizomatic connection.

8.2.1.3. From a Study of Virtual Accelerators and Incubators

In the last study (in Chapter 6), Assemblage is employed to *virtualise* the virtual hubs. Besides the co-located hubs studied in the earlier two studies, this study examines the interactions of heterogeneous elements in the emerging social-technical infrastructure of virtual hubs (i.e., virtual accelerator and incubators). Through a two-stage empirical approach (categorisation of the virtual hubs' websites and interviews with virtual hub participants and organisers), the findings show that virtual hubs can advance participation, are also startups themselves, customise their programs and take steps to manage their incompletes, and explore online approaches. In delivering digital incubation, virtual hubs develop strategies in dealing with the absence of the in-person interactions in four key areas: participants, model, organisation, and digitising. Moreover, the virtual hubs have two modes of operation, which are digitalising the in-person and building a platform.

Through formalisation (in subsection 6.5.1 & 6.5.2), virtual hubs are perceived to operate under the condition of the absence of in-person interactions and the work-in-progress of a virtual hub's development itself. On the one hand, the heterogeneous elements of human, activity and digital infrastructure are configured to work together under these conditions: flexible with rigorous, globally with customised, and technological with humane. On the other hand, the expressions of virtual hubs are arranged (i.e., strengthened and normalised) by the term *"virtual hub"*. In a reciprocal presupposition state, the ups and downs and strategies of digital incubation conditioned by the absence of in-person interactions are legitimised by the *"virtual hub"* expression. In other words, this work-in-progress of digital incubation is acceptable because this is "virtual" — virtual means almost as good as reality, an alternative to or better than real. This reciprocal relation can be seen in, for example, the organisers' efforts to customise incubation and to keep the interactions with the current facts on incompletes issues are

'normalised' by those downsides also happening in the in-person counterpart. Another example is platform — as a metaphor or as a socio-technical infrastructure or as a business strategy — is emphasised by some of the virtual hubs' organisers because of its meaning as something different or better than the in-person. Also, through this formalisation analysis, the Assemblage of virtual hubs was seen to have a formalised function: to virtually incubate the non-co-located startups and entrepreneurs.

Through territorialisation (in section 6.5.3), virtual hubs are experiencing *virtual* transformation. Both forms that operate in the space of *the in-between* experience a transformational movement *(i)* from the conditions of co-location of human-activity-infrastructure to a non-co-located version, and *(ii)* from the supportive expressions related to *"more than just space"* to the normalising expression of *"virtual hub"*. In spatially co-located hubs, an example is activities and events that brought and catalysed collaboration, while in the virtual, an example is global with customised together with the technological and humane. Respectively, various human elements eagerly involve in a hackathon and an informal bottom-up Friday night event in the creative hubs' communal space; and, geographic proximity of and frequent contact points amongst the non-co-located human elements becomes a factor for incubation through digital technologies. At the same time, in the virtual hubs, we can see the use of expressions such as: "we are still startups ourselves", "platform", and "keep the interactions and experience very human" under the condition of *"virtual hub"*, instead of communicating the virtual hubs as a lively space under the condition of *"more than just space"*. Moreover, different practices in the observed virtual hubs occurred because of the *virtual* transformation of the Assemblage of virtual hubs.

Finally, through these three different studies, this understanding of creative hubs has a dual-implication. This Assemblage-oriented understanding provides a *virtual* map

for understanding interactions in creative hubs; and, it sets a functional limit for the Assemblage of creative hubs and eventually to the operations of the creative hubs. First, by looking at creative hubs as Assemblages, this thesis maps the conditions that 'select' or require, organise, and structure the interactions of different elements in creative hubs in supporting the development of startup companies. This *virtual* map can provide a framework for fundamentally advancing the actual interactions in the creative hubs. Second, although the Assemblage of creative hubs passes and makes connections across boundaries, it has a limit or a restrictive mode of operation, which is to provisionally support for the provisional to grow and develop. Moreover, this Assemblage works under the condition of a provisional arrangement rather than an established arrangement.

8.2.1.4. Summary of Contribution: Assemblage-Oriented Understanding

In summary, understanding creative hubs as Assemblages implies:

(i) Creative hubs have a form of content and form of expression that define the interactions of heterogeneous elements (what I call here human-activity-infrastructure, terms-themes-expectations and other expressions). These two forms (of content and expression) reciprocally need each other. For example, in a startup accelerator (my second study), intensive interactions required by the *"seed accelerator"* (the form of content) are legitimised by expressions and incorporeal transformation of *"seed funding"* (form of expression);

(ii) The formalised function of creative hubs is to provisionally support the provisional. For example, in the second study, the formalised function becomes to intensively seed the scalable startups. In the third study, the formalised function becomes to virtually incubate the non-co-located startups and entrepreneurs. The formalised function gives aim to the interactions of heterogeneous elements and,

at the same time, defines the actual activities and support provided by the creative hubs.

(iii) Territorialisation of the creative hubs is the transformational movement of the Assemblage. The Assemblage of creative hubs works through a provisional arrangement, rather than an established arrangement with a long-term institutional commitment because of the scale of people, businesses/firms and infrastructure involved. Transformational movement of the forms (of content and expression) of this Assemblage corresponds with the multiplicity of creative hubs.

8.2.2. Approach to Applying Assemblage as an Analytical Framework

The second contribution of this thesis relates to applying a philosophical concept of Deleuze and Guattari: Assemblage as an analytical framework. This thesis 'translates' the concept and provides a 'translated' version of Assemblage for my analytical purpose (in section 3.2). I frame my Assemblage analysis via its devices: formalisation (*form of content* & *form of expression*, *reciprocal presupposition, and formalised function*) and territorialisation (*transformational movement*). This analytical framework provides an integrated view of the conditions that define the interactions of the heterogeneous elements in the creative hubs. As I have shown throughout my case studies, when the Assemblage changes, then the actual interactions in creative hubs change. At the same time, this analytical framework equips me to think of a new perspective or a new way of looking at my object of study, which is the creative hubs.

Provisionality of a creative hub, as a new perspective, came up through my analysis of different creative hubs. Provisional has a temporary meaning, it carries the in-between-ness, and it has a continuous sense or a sense of becoming. It conveys a potentiality, for either to grow or vice-versa, for creative hubs and the startup companies

or entrepreneurs. Provisional gives the Assemblage of creative hubs an aim so that the machinic assemblage of bodies and collective assemblage of enunciations are co-functioning in a reciprocal presupposition. It also sets a limit of this Assemblage: to provide provisional support to the provisional. In a practical case where a creative hub operates toward the boundary of provisional, a creative hub is experiencing a dual-force of transformation. Via thinking virtually with this Assemblage, I found this provisionality manifested differently in creative hubs. Nevertheless, they constitute a creative hub as a provisional entity.

8.3. Future Works

Building from this thesis, there are two kinds of future work that can be undertaken as separate future projects or as integrated extensions to this project. The first is a theoretically oriented project and the second is a design-oriented project.

8.3.1. Towards *Provisional-ism* of Creative Hubs

From this current study, a future theoretically-oriented project concerning the provisional-ism of creative hubs arises. Through the view of "creative hubs as assemblages", the concept of provisional emerges from a series of specific practices in the studied creative hubs, vis-à-vis from other kinds of creative hubs or other non-established media production spaces. Thus, the next step for expanding the contribution of this study is further establishing the *provisional-ism* of creative hubs — specifically, extending the studies to other creative hubs to explore questions regarding the how and to extent of their provisional-ism. For example, how does a hub's elements, in their provisional status, develop their mode of operation or strategy so that they can temporarily stay in that 'in-between' space of work-play-share? This thesis offers pieces

of these efforts, such as maintaining the smallness, enforcing community values, and engaging in events, but they are not analysed under a unified frame of 'strategy' or 'mode of operation' — thus, further exploration can consider this topic. There is also a concern: to what extent the hub elements will maintain this provisional status. Again, in my analysis, I mention the pliability or limit of an Assemblage, but this just for the purpose of unravelling the Assemblage. A more critical and provisional-oriented question is: is there any such thing as permanent provisional? This is a question that has not yet been fundamentally explored in this thesis, but potentially reveals a bigger agenda for understanding hubs. Therefore, extending this provisional as *provisional-ism* may give a substantial contribution to the body of knowledge of understanding creative hubs.

8.3.2. Assemblage for Designing Virtual Creative Hubs

From this current study, there is an opportunity for a future design-oriented project that utilises the understanding developed in this study. In general, the project would be started by mapping, and then, developing creative hubs to connect creative talents across geographical boundaries. One of the approaches is by implementing the findings and analysis of this thesis into the form of a virtual creative hub platform. An understanding of creative hubs developed from this thesis is closely related to the concern of sustainable economies and societies of a country or a region (including in the developing countries). Thus, the design-oriented track requires a collaborative effort with various parties. A creative hub, with its spatial co-location of talents and internal processes and support, is a promising concept to be applied further in the sectors of creative industries. However, to contextualise this concept in a specific setting, as explored in this thesis, one must explore what Assemblage constitutes a creative hub in its locality so that the process, to put it briefly, is not about replicating but contextualising/appropriating with Assemblage.

Therefore, a collaborative project that may involve various stakeholders from private to public parties to develop a platform to support creative talents is a feasible future work to be pursued.

8.4. Concluding Remarks

To conclude, this thesis fundamentally explores creative hubs as Assemblages. The Assemblage of creative hubs in its multiplicity requires, organises and structures (i) human-activity-infrastructure, and (ii) terms-themes-expectation and other expressions so that the actual creative hubs as a provisional entity functions to provide provisional support for the provisional in the creative industries.

NOTES

[1] To explain this *virtual* plane or the space of the *in-between*, I use my own experience when I submitted full papers to the DIS and CHI Conference. My reflection is that the submission stage of both conferences, including their review process, have a different intensity. Although this intensity is quite difficult to be expressed, the authors and reviewers realise this intensity, and they work together under this specific condition. A condition that drives them to configure their work and the way they work with various (human and non-human) elements. Space or area where that intensity, or 'underlying force', operates is what I meant by the space of the *in-between* or the *virtual* space.

[2] Following on my example in this thesis' first endnote, that intensity or, better, working arrangement, that brings the heterogeneous elements to work together is the Assemblage. However, instead of only mentioning that *Assemblage* of *the conference submission* is the cause of the configurations of heterogeneous elements, one has to explain how does that Assemblage works or how the process of that Assemblage operates.

Note here also that I use the capital "A" as in "Assemblage', rather than small "a" as in "assemblage", to refer to my application of Deleuze and Guattari's theory of Assemblage as outlined in Section 3.2

[3] Grimaldi and Grandi (2005) categorise the incubators into the four types: the Business Innovation Centres (BIC) offer a set of basic services to tenant companies, including the provision of space, infrastructure, communication channels, and information about external financing opportunities and visibility; The University Business Incubators provide support and services to new knowledge-based ventures and they place more emphasis on the transfer of scientific and technological knowledge from universities to companies; The Corporate Business Incubators are incubators owned and set up by large companies with the aim of supporting the emergence of new independent business units; and Independent Business Incubators are incubators set up by single individuals or by groups of individuals (companies too may be among their founding partners), who intend to help rising entrepreneurs to create and grow their business (Grimaldi and Grandi 2005, pp.112-113).

[4] "Business assistance includes an array of support such as business planning, tax assistance, personnel recruiting, marketing, management, accounting, general legal expertise, accessing financial capital, and accessing business contacts (Smilor and Gill, 1986; Hansen et.al., 2000, Mian, 1996). Technical assistance includes access to university research activity and technologies, laboratory and workshop space and facilities (Mian, 1996; Bakouros et al., 2002), industry contacts (Hansen et.al., 2000), technology transfer processes, research and technology supply pipelines, intellectual property protection (Hannon, 2005), and technological know-how skills (Scillitoe and Chakrabarti, 2005)." (Scillitoe and Chakrabarti 2010, p.157)

[5] The term "assemblage" is translated from the French word, "agencement". The translators (Polan, Tomlinson & Habberjam, and Massumi) of *Kafka: Toward a Minor Literature*, D*ialogues*, and *A Thousand Plateaus* acknowledge and use this translated term: assemblage. Polan (in Deleuze and Guattari 1986, p.xxvii) recognises that "even the key words of the Deleuze-Guattari procedure, …assemblage (agencement), become battle-sites for a process of deterritorialization as the authors violate their own proprietary authorship of terms and make the words tremble, stutter." In their translation notes, Tomlinson and Habberjam (in Deleuze and Parnet 1987, p.xiii) follow the use of "assemblage" to render the meaning of agencement, but they are aware that the word assemblage "has both an active and passive sense, 'a way of assembling or arranging' as well as the resulting ordering or arrangement." In other words, the term "assemblage" is not a very good approximation for agencement but it has been maintained that way by many translators and commentators with such awareness (Phillips 2006). Most recently, Ian Buchanan (2015) proposes that an assemblage is better understood as an arrangement, or a "working arrangement", to give a sense of the processual and the contingent that is more characteristic of it, rather than any sense of a static situation.

[6] "Agencement" has been discussed by (Phillips 2006, p.108) as "a common French word with the senses of either 'arrangement', 'fitting' or 'fixing' and is used in French in as many contexts as those words are used in English: one would speak of the arrangement of parts of a body or machine; one might talk of fixing (fitting or affixing) two or more parts together; and one might use the term for both *the act of fixing and the arrangement itself*."

[7] I use "firstly", "secondly" and so on to denote my elaboration of Assemblage based on an introductory definition to a more specific one and based on the amount of efforts the authors have given to explain the concept in different contexts. Assemblage in this section is thus not described chronologically. Note that the term "Assemblage" first appears in Deleuze and Guatari's book: Kafka: Towards Minor Literature (first published in French in 1975, translated to English in 1986).

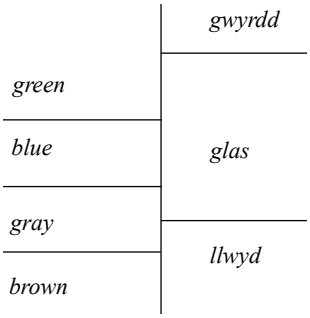
[8] "Rhizome" was introduced in Deleuze and Guattari's book, Rhizome (1976), and then re-appeared in the first "plateau" of their next work, A Thousand Plateaus (1980). It conveys six characteristics that could be seen as a starting point to understand Assemblage: *i) principles of connection and ii) heterogeneity; iii) principle of multiplicity; iv) principle of asignifying rupture; v) principles of cartography and vi) decalcomania*.

[9] "Articulation is not just a noun: a description of a connection already forged. It is also a verb: it is the work of articulating, of making connections, of constructing unities; and disarticulating is the work of breaking connections, of deconstructing unities." (Slack and Wise 2015, p.151 &154)

[10] In summary, the received view posits human and technology as two different entities that can act to one another which then lead to the technological determinism or social determinism; the contextual view argues that neither technologies nor human beings are separate from their context; the articulation view sees the different elements can be connected (articulated) or disconnected in order to create unities or identities. (Wise 2005, pp.80-85)

[11] "A stratified assemblage is based on a fixed structure with relatively homogeneous parts and is frequently called a molar assemblage. A rhizomatic assemblage, also called a molecular assemblage, is a relatively stable formation made up of heterogeneous components that include human as well as non-human elements." (Rizzo 2015, p.110)

[12] I present a schematic confrontation that is presented by Louis Hjelmslev below:



"The part of the spectrum that is covered by our word *green* is intersected in Welsh by a line that assigns a part of it to the same area as our word *blue* while the English boundary between *green* and *blue* is not found in Welsh. Moreover, Welsh lacks the English boundary between *blue* and *gray*, and likewise the English boundary between *gray* and *brown*" (Hjelmslev 1961, pp.52-53)

[13] The term "distinct" is often used interchangeably with "parallel" in *A Thousand Plateaus*. For example, "Form of content and form of expression involve two parallel formalizations in presupposition" (Deleuze and Guattari 1987, p.68). In this thesis, I use the word "parallel" in relation to these two formalisations.

[14] A picture of a lobster (Deleuze and Guattari 1987, p.39) in the beginning of Chapter 3. 10.000 B.C.: The Geology of Morals illustrates this double pincher or double bind, or in other words, dual processes that ought to meet.

[15] I prefer to use the term "formalised", rather than finalise, so that it aligns with formalisation. The two terms (formalise and finalise) are used interchangeably in the translated version of Deleuze's (1988) book, *Foucault*.

[16] The term "scrappy" has very different meanings in North American (where it means aggressive or combative) and the UK (where it means improvised or sketchy). I use the latter with an additional explanation in the main text.

[17] Following from my 1st and 2nd endnote above, where working arrangement of the conference submission Assemblage does requires which bodies or things to be included (and excluded), my understanding here however does not mean that I am in favour or otherwise in 'granting' agency to Assemblage. There are other related works, such as, Agency of Assemblage (Bennett 2005) and Human and Non-Human Agency in Deleuze (Bowden 2015), that extend the notion of agency in Deleuzian terms, but, this is not the focus in my thesis's Assemblage analysis.

[18] My example of this "form of expression without sign" is the writing of rebuttal (following my example of conference submission). Here (as I experienced and read few guidelines), the rebuttal is not for nullifying or refuting the reviews. Rather, it is more for clarifying my paper, acknowledging and accommodating the reviews, and more importantly, how will I revise the paper. The rebuttal has entered a new regime of signs. The cause of or what makes this 'new practice' of rebutting is the form of expression, or, in other words, the need ('urge') of an expressive mechanism for the authors to respond/defend back their work to the reviewers in a constructive manner.

APPENDICES

Appendix A: Example Participant Information Sheet

"Network Assemblage and Creative Hub"

Participant Information Sheet

This research aims to understand interactions of startups in creative hubs and to inform the design of online platform that facilitates the interactions. Specifically, I would like to know how startups benefits from tech hubs and how tech hubs support startup.

Currently, I am looking for your participation in this research. I will collect information based on these topics: your experience in the startup-related field, your contributions at the hub, your interactions with mentors, your interactions with your fellow internal team and with another member of the hub as well. I will also ask how you perceive the influence of other resources such as the facilities, news, and activities, to your interactions at a hub. Later, this knowledge will be used to inform the design of online platform to facilitate hub-like interactions in a wide geographic area.

What will happen to participants?
If you voluntarily decide to take part you will be given this information sheet to keep. You will also be asked to sign a consent form about semi-structured interview and observation. You will take part in a semi-structured interview that will last approximately 30 minutes. You are free to stop the interview at any time if you do not wish to continue and you can withdraw from the study at any time. If you do so, the data will be deleted from the recorder and will not be used in the study. By your consent also, your interactions will also be observed, and the researcher will only take written notes.

What are the benefits of taking part?
By telling your experiences in this study, you will contribute to the knowledge development in interactive media and creative industry field. Your information will be useful for others who want to be involved in tech startup and creative hubs, and to inform the development of an online platform that supports the interactions of startups.

Has the research been the subject of ethical review?
This research has been ethically reviewed by the Ethic Committee to assure the integrity and to protect the security of the information. This also includes anonymity of the participants and protected access to the data.
Further information about ethical review, you can reach Dr Jenna Ng (jenna.ng@york.ac.uk), Chair of Ethics Committee at Department of Theatre, Film and Television, University of York.

What will happen to the information you collect?

I will store the digital files (audio and transcript) on my personal laptop and the data will be password protected. Your response will be treated with full confidentiality and I will not share the interview transcription. I will use the information in my PhD thesis and in the future publications, such as articles for peer-reviewed journals and conference presentations with your identity anonymized.

Thank you for your time.

Researcher:
Jandy Luik
PhD candidate in Interactive Media
Department of Theatre, Film and Television
University of York
Email: jel525@york.ac.uk

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Dr Jenna Ng
Anniversary Lecturer in Film and Interactive Media
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Web: www.jonathanhook.co.uk
Telephone: (01904) 325 238

Appendix B: Example Consent Form

Consent Form

"Network Assemblage and Creative Hub".
Researcher: Jandy Luik

Consent form for Participants
This form is for you to state whether or not you agree to take part in the study. Please read and answer every question. If there is anything you do not understand, or if you want more information, please ask the researcher.

Have you read and understood the information leaflet about the study?	*Yes*	*No*
Have you had an opportunity to ask questions about the study?	*Yes*	*No*
Do you understand that the information you provide will be held in confidence by the researcher?	*Yes*	*No*
Do you understand that you may withdraw from the study for any reason, without affecting any services you receive?	*Yes*	*No*
Do you understand that the information you provide may be used in future research and publications?	*Yes*	*No*
Do you agree to take part in the study?	*Yes*	*No*
If yes, do you agree to your interviews being recorded (audio only)? (You may take part in the study without agreeing to this).	*Yes*	*No*
If yes, do you agree to your interactions being noted (written notes only)? (You may take part in the study without agreeing to this).	*Yes*	*No*

All data is held in accordance with the Data Protection Act.

Your name (in BLOCK letters):

Your signature:
_____

Researcher's name: JANDY LUIK

Date:
_____

Appendix C: Example Data Collection Protocols

Throughout my field studies for this thesis, I used the approaches of interview, observation, and website categorisation for gathering data. I will explain them in turn.

C.1. Example Interview Schedule

I used a semi-structured interview technique for all my field studies. For all my interviews, I employed this interview schedule to guide myself during the conversation. Although I have prepared the guiding questions, during the interviews, I focused on the responses provided by the interviewees. Thus, very often, I asked the interviewees follow-up questions or questions on a new topic. This guideline was also subject to improvisation depending on who the interviewee is. For example, when I interviewed a startup founder, I improvised by, e.g., asking his/her role in the startup and his/her experience in the hub.

A. Introduction

- I asked the participants to introduce themselves;
    - What is their role in the creative hub?
    - What are their responsibilities in the creative hub?
- I then asked the participant to explain what is the meaning of the [name of their hub] — if I could find the meaning in their official web or publication then I would not ask the question but, rather, include them in a question that related to activities;
    - What is a hub according to their own words?
    - What are the core services offered?
- I asked about a brief history of their hub [for the hub management];
    - Why did they establish a creative hub?

- A brief ‘milestone’ of their hub (if this information was not presented in their publication)?
- What is the specific aim for their hub?

B. The elements involved in the creative hub

- Human elements (Before the interview, I identified them first through their publications and my observations; I used this list of questions subject to the information I gathered, and, for the purpose of clarification)
  - How many people involved in the hub management team?
  - Who are the hub members?
  - How many hub members?
  - How many ‘alumni’ of the hub [in the case of an incubator and accelerator]?
  - Who are the other partners or parties that are part of the hub’s network?
  - What is their role for the hub?
- Facilities and Infrastructure (Before the interview, I identified them first through their publications and my observations; I used this list of questions subject to the information I gathered, and also, for the purpose of clarification).
  - What are the facilities provided by the hub?
  - How does the infrastructure contribute to the hub’s interactions (I use a specific item in the hub as a case, for example, table tennis, coffee shop, communal area)?
  - How does the hub organise the usage of these facilities and infrastructure?

C. Activities and events that involved these different elements (Before the interview, I identified them first through their publications and my observations; I used this list of questions subject to the information I gathered, and, for the purpose of clarification).

- How the management team of the hub work together with other elements in the hub?
- What are the activities and events offered to support the startup companies to develop their companies?
- Who can propose or organise an event in a hub?
- What are the results of a specific event in a hub?

D. Interactions between elements

- How does the hub management facilitate or support the interactions among the hub members?
- Is there any specific infrastructure used to foster interactions between elements? If yes, then, how does it work?
- How does the hub management maintain the interaction between different elements in a hub?

E. Results of the engagement of or relations between elements in a creative hub?

- (If an interviewee did not mention this before, then I would ask this specific question) What is a success story so far for the hub, or, on the contrary, [I mention a specific example, then I asked] is that a kind of success story or something that you wanted to pursue?

- What are the tangible benefits perceived by the participants in a hub? (If a hub mentioned this in their website or publication, I would start by asking that specific benefit)
- What are the intangible benefits received by the participants in a hub? (Often, there was no mention about these intangible benefits, so I did ask this after the tangible benefits)
- What are the challenges arising from the relations of different elements in a hub? (When I have identified the challenge before the interview, e.g., participants who are not completing the programme, then I would start by this specific example).

C.2. Example Observation Note

I used the observational notes for the first and second field study. I wrote my field notes based on the basic information in the following. I also took note of the other findings that are relevant during the fieldwork.

Date of the observation :
Location :

[Activities involved chronologically]

A. Activity 1 [Name of the activity]

- A summary of the activity
- Who was involved?
- Insert a picture (if any) to capture the activity

Activity 2 [Name of the activity]; if there are more than two activities in a day, I will expand the note accordingly.

- A summary of the activity
- Who was involved?
- Insert a picture (if any) to capture the activity

[Interactions in the hub that I notice]

B. Internal Interactions

- A brief recap of the internal and informal interactions
- Who was involved?

[Interactions in the hub that I notice]

C. What I got from the observation

- My key 'analytical' points for this activity.

C.3. Example Categorisation Plan

I used categorisation plan for my third study. I employed this plan by making a list of categories that I will use for categorising the content of websites of the virtual hubs.

Table 7. Categorisation Plan

Profile	**Name**	***Name of the creative hub***
	Year Launched	***The year each programme or facility began to accept businesses for the purpose of business incubation.***
	Type	***Business incubation type***
		Virtual Accelerator- Virtual accelerators provide much of the same support as their physical counterparts except for the provision of work or office space and Virtual Incubator- Virtual incubators provide much of the same support as their physical counterparts except for the provision of work, office or laboratory space
Supports	**Support offered**	***facility. Possible categories of support are as follows:***
		Mentoring;
		Seminars / Workshops;
		Office / Work space;
		Laboratory space;
		Funding advice;
		Demo days;
		Networking connections / Access to investors;
		Training;
		Legal / Accountancy support;
		Direct Funding (e.g. grants or equity investment);
		Investment readiness;
		Access to experts (inc. academics);
		Tech support (inc. IT support).
	Stage of Business Accepted	***The stage of business that is accepted into the programme or facility (see below for possible catergories and definitions).***
		Pre-startup
		Startup
		Early-stage venture
		Later-stage venture
	Duration of Support	***Indicates the amount of time startups generally spend in an incubator or accelerator. For incubators that do not have a fixed duration or where this is***
		Three months
		Six Months
		Nine Months
		Twelve Months
		1-2 Years
		No specific time frame
		Not specified
	Tools Used	***Applications or software used by the hubs to facilitate the interactions and communication***
		Video Conferencing (e.g. Skype, Zoom, Hangout, etc.)
		Group Messenging (e.g. Slack)
		Project Management (e.g. Trello)
		Shared Documents (e.g. Google Drive, Dropbox)
		Customised Software
		Others
	Cost for support	***What shall be given by the startups to receive the supports from the hubs***
		Participation fee
		Equity taken
Qualities	**Key Qualities**	***Key qualities of the creative hubs***
		Social capital;
		Knowledge exchange;
		Experimentation;
		Incubation.
	Relational Aspects	***Relational qualities that define the experience of working in creative hubs***
		Smallness of the team
		Hub ethos (i.e. neutrality, independency)
		Element of play
		Online events (i.e. online hackathon, webinar)
		Presence of other elements (i.e. investors, sponsors, reputable partners)
		Tacit, informal and ad-hoc sharing
		Community values

Appendix D: Example Data Analysis Procedures

I analysed the data collected from my field works using thematic analysis (Appendix D.1), recursive analysis (Appendix D.2), and website categorisation (Appendix D.3).

D.1. Thematic Analysis

For my thematic analysis, I transcribed the interview recording, and then, I coded the responses given by the interviewees. First, I assigned the coded answers to nodes, and then, I grouped those nodes into several groups. Later, I formulated my key findings based on these groups. For example, in Figure 3 below, I used NVivo for Mac to assist me in building the themes for Chapter 4 (first field study).

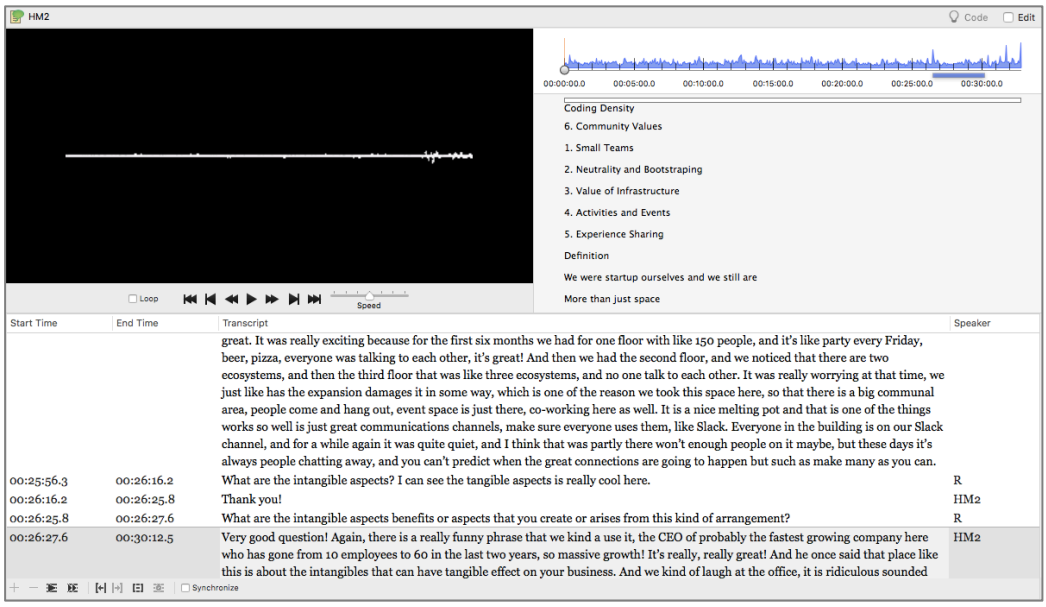

Figure 3. Coding and Theme Building

Also, during my fieldwork, I made field notes from my observation. I wrote down key points of interactions during the observation in an event, for example, in a Hackathon. An example of my field notes is in Figure 4 below — I black-out some parts of the text for anonymity reasons.

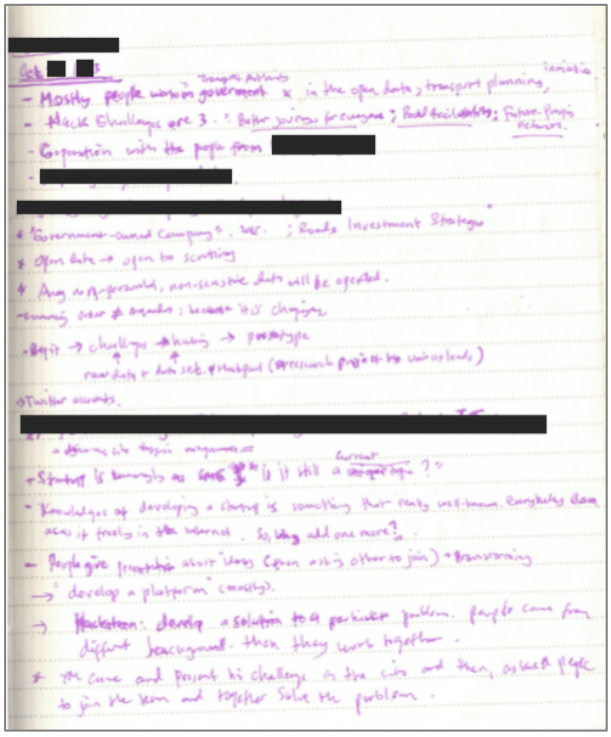

Figure 4. Example Field Note

For my presentation of findings, for example in Chapter 4 (Section 4.3), I built my themes titles based on the scheme below (Figure 5) to incorporate my interview findings, field notes, and Assemblage analysis. Since I drafted this scheme in the Google Slide, then, I could restore it to the first version.

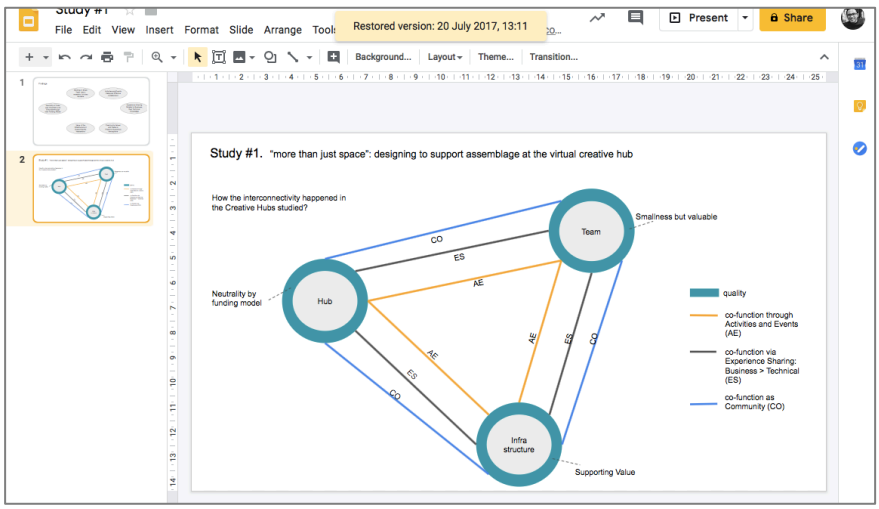

Figure 5. Schematic Diagram for the Presentation of Thematic Findings

D.2. Recursive Analysis

I conducted a recursive analysis for my ethnography study in a startup accelerator in three stages: during the study, after the study, and after I completed my thick description of the activities in this accelerator. I created a thick description based on the activities because I can capture the relations between different elements in those activities.

A. During the study

While I was doing the data collection, I developed a draft of the relations of different elements in my field notebook (Figure 6). This draft was a result of my early days of observation. Also, I used this draft to start a discussion with the interviewees.

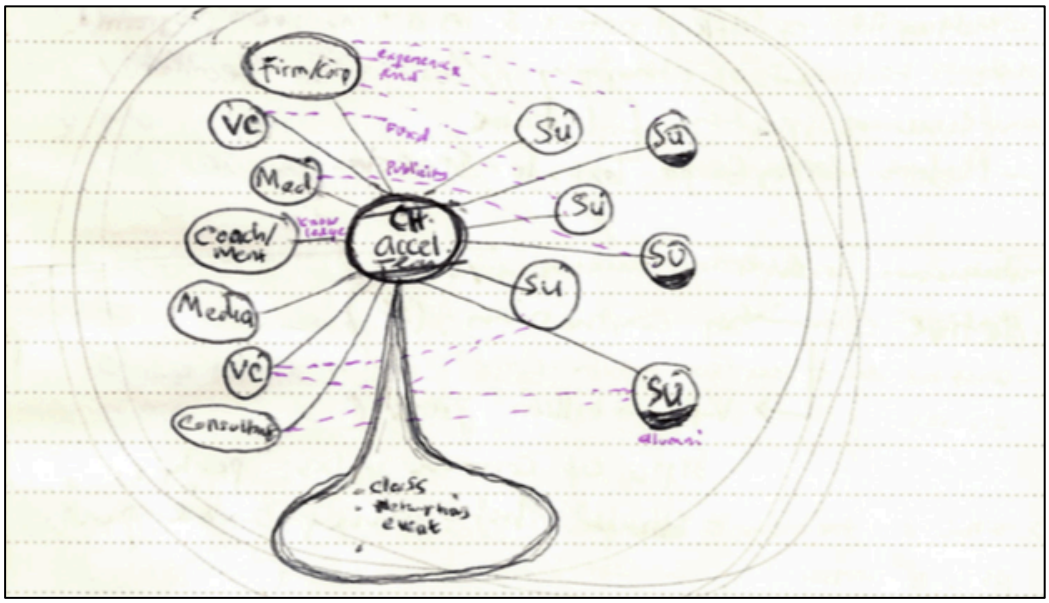

Figure 6. Draft of the Relations between the Different Elements

From there, I received responses from the participants, in which the responses were not only about their experience but also about their interpretation of such experience. It happened like this because they could have a 'concrete' idea of what I have been doing so far for my study. This draft was thus improved by the number of feedbacks, conversations, and observations I gathered in the field.

B. After the study

I organised all the activities, including the date of the activities, into a one-page mapping (Figure 7) so that I can have an overall picture of the processes in the startup accelerator. This mapping assisted me in writing a thick description of the activities in the startup accelerator.

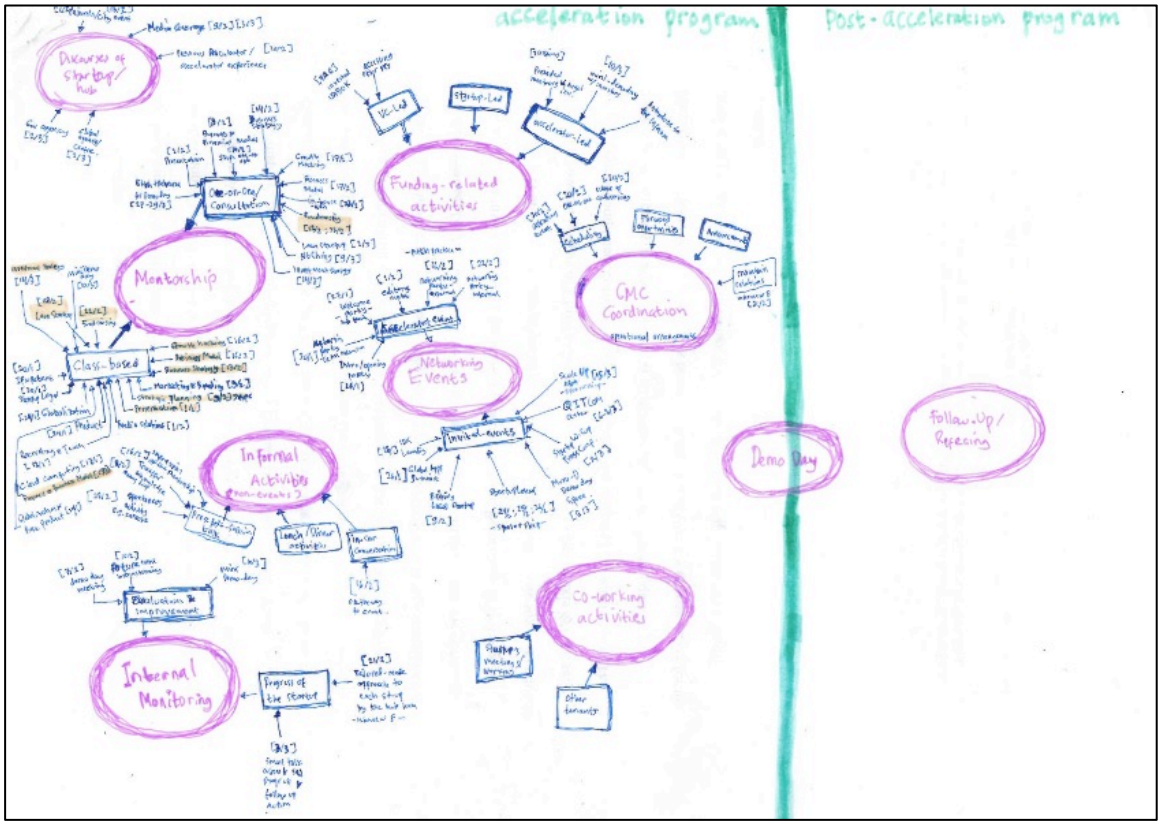

Figure 7. Mapping of the Activities in the Startup Accelerator

The product of this stage was the thick description (consisted of 13.491 words) that provided my detail presentation of the findings. I then moved to start telling my 'story' based on this ethnography study according to patterns that emerged from the findings. This process means I had to decide which part of the thick description that I would use in presenting my findings in Chapter 5 of my thesis.

C. After my thick description of the activities

I dedicated this stage to devise the patterns for Chapter 5's findings that are linked with my previous chapter's analysis and with Assemblage. I use the term "pattern" to capture the repeat thought and action of the human elements in different situations. For my first pattern (in subsection 5.3.1. 12-Week Startup Seeding), I developed from this figure below. I transformed the activities identified in point B above into a draft of the timeline (Figure 8). It became a basis for describing the intensive approach taken in this startup accelerator.

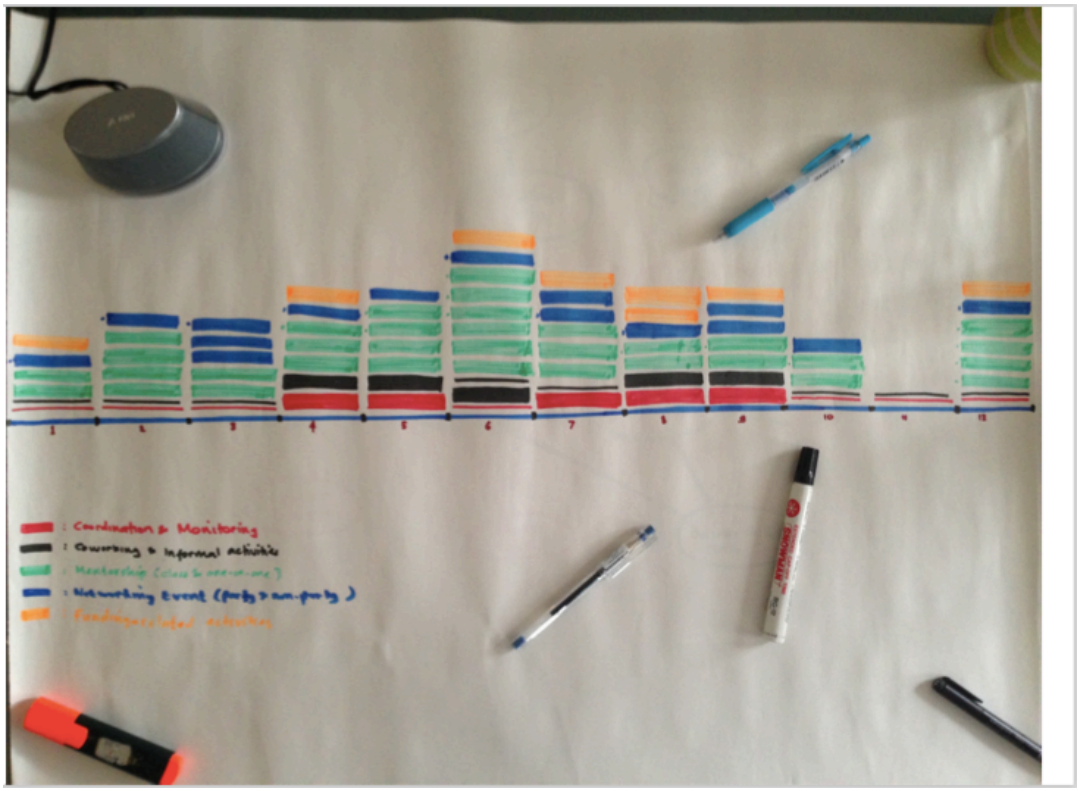

Figure 8. Draft of the Timeline of the Activities in the Startup Accelerator

Next, for my second and third pattern (respectively, in section 5.3.2. Racing to the Demo Day & 5.3.3. "Securing an offer? I can do as well"), I developed with the logic as presented in Figure 9 below.

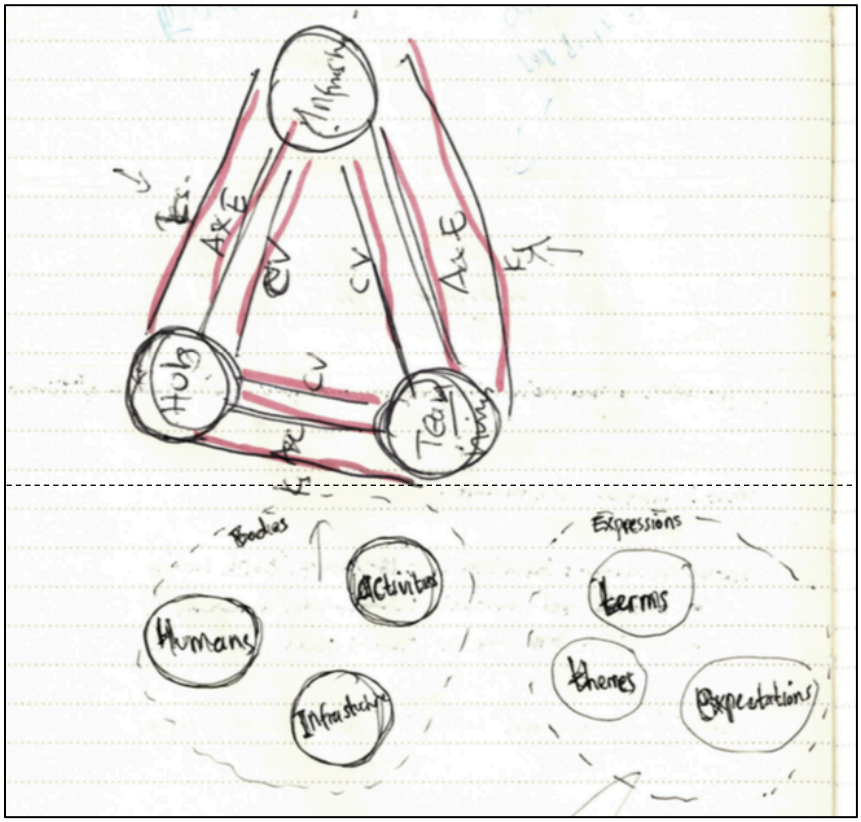

Figure 9. Patterns of Data for the Presentation of Ethnographic Findings

The top part of Figure 9 represents the interconnectivity of different elements in Chapter 4 (my first study). While the bottom part of Figure 9 represents my two patterns in Chapter 5 (my second study). For Chapter 5, I used “racing to demo days” as the pattern that represents the configurations of humans-activities-infrastructure, and “Securing an offer? I can do as well” as the pattern that represents the configurations of expressions. Respectively, I presented some key events and quotations to support these patterns.

D.3. Website Categorisation

Table 8 below presents the raw result of my website categorisation for Chapter 6. I use "1" to denote the presence of a specific property in a virtual hub (VH). In the findings (subsection 6.3.1. Support Offered and Qualities), I presented the calculated result in Table 6 for ease of use.

Table 8. Coding Result of Website Categorisation

		VH1	VH2	VH3	VH4	VH5	VH6	VH7	VH8	VH9	VH10	VH11	VH12	VH13	VH14	VH15	VH16	VH17	VH18	VH19	VH20	VH21	VH22	VH23	VH24	VH25
Type	Virtual Incubator		1	1	1	1			1			1	1	1	1	1	1					1		1	1	
	Virtual Accelerator	1					1	1	1	1	1							1	1	1	1		1			1
	Fully Virtual		1	1	1	1	1		1	1		1	1		1	1	1	1	1		1	1		1	1	1
	Hybrid							1			1			1						1			1			
Support offered	Mentoring	1	1	1	1	1		1	1	1	1	1		1		1		1	1	1	1	1	1		1	1
	Seminars/Workshops	1	1					1						1						1	1	1	1			
	Funding advice										1								1	1	1					1
	Demo days	1						1															1			
	Networking connections	1		1	1	1	1	1	1	1	1	1	1	1				1	1	1	1	1	1		1	1
	Access to investors	1		1		1	1		1	1									1	1	1	1	1			1
	Trainings		1					1		1	1			1					1	1	1	1	1			1
	Legal/Accountancy support								1												1	1				
	Direct Funding	1						1	1														1			1
	Investment readiness	1		1				1	1	1	1			1				1	1	1	1		1			1
	Access to experts		1	1	1	1	1	1		1	1			1		1		1	1	1			1			1
	Tech support								1																1	
	Learning resources												1		1		1							1		
Business stage	Pre-startup		1	1		1		1	1		1	1	1	1	1	1	1	1	1		1	1		1		
	Startup		1	1					1	1		1				1			1			1	1			
	Early-stage venture	1	1		1		1		1	1																1
	Later-stage venture																			1						
	Not Specified																								1	
Duration of Support	Ten weeks									1	1															
	Three months			1									1						1		1		1			
	Four months							1								1										
	Six months																			1						1
	Seven to Nine months													1												
	Ten to 12 months																	1								
	12 months		1																							
	Not Specified	1			1	1	1		1			1			1		1					1		1	1	
Tools Used	Video Conferencing			1	1					1			1			1		1	1	1	1		1			
	Group Messenging			1						1													1			
	Project Management																									
	Shared Documents									1			1			1		1		1			1			
	Customised Software			1									1	1												
	Learning Management System		1					1													1					
	Others					1													1		1	1				
	Not Specified	1					1		1		1	1			1		1							1	1	1
Cost of Support	Free							1					1	1						1						
	Participation fee		1	1					1		1		1			1		1	1		1					
	Equity taken	1							1														1			1
	Others									1																
	Not Specified				1	1	1					1			1		1					1		1	1	
Key Qualities	Social capital	1		1				1	1	1				1					1	1			1			1
	Knowledge exchange	1	1	1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Experimentation																									
	Incubation	1	1	1	1	1		1	1	1	1	1	1	1		1		1	1	1	1		1			1

D.4. Strategies of the Virtual Hubs

I used this synthesis to answer the question of how the virtual hubs deal with the absence of in-person interactions. Form these strategies, I was able to identify two modes of operation (in section 6.4. Digitalising and Platform Building) to organise the various elements (activities, human elements, and technology) in virtual hubs.

Table 9. Strategies of Virtual Hubs

Strategies	**How the virtual hubs best deal with the absence of in-person?**
Participants	*Virtual hubs can accept:*
Number	Higher scalability
Location and relocate	Anywhere, without & short-term re-location
Stage of business	Very early and later stage
Kind of participants	Individuals and groups
Participation fee	Free or cheaper
Model	*Virtual hubs run with models:*
B2C & B2B	Focus on one model
	Simultaneously two models
Online & hybrid	Start off-line, move online
	Start online, move to a hybrid
	Start online, still online
Scale	Building large user based
Organisation	*Virtual hubs organise the program through:*
Pre-sessional activity	Selection of applicants
	Mentor-participant matchmaking
Customisation	Customised session based on the participants' profile, business focus, and geographical proximity
	Customised content
	Interactive and gamified platform
Non-mentorship activity	Send follow up messages, apply motivational techniques
	Create online group channel
Digitising	*Virtual hubs digitalise:*
Interactions space	Meet through existing channels
Incubation activities	Replicating boot camp, demo day, and long-term engagement
Incubation tools	Integrate the tools to a platform

GLOSSARY

BEKRAF:

(*Badan Ekonomi Kreatif) or* Indonesian Agency for Creative Economy (IACE) is the Non-Ministry Government Body for the sixteen sectors of creative economy (BEKRAF, 2017).

Cohort (or batch):

A cohort is a group of startup companies in a specific period of an acceleration programme. The number of participants (or, startup companies) in each cohort/batch varies. For the accelerator studied in Chapter 5, the number of participants in the first and second cohort is less than ten startup companies.

Computer-mediated communication (CMC):

A set of online communication tools such as email, online messaging, video conferencing tool, and shared drive.

Demo Day (or Final-Demo Day):

Usually, the end point of an acceleration programme that takes place in front of the invited only audience such as other startups, investors, partners, and media. For the batch/programme studied in Chapter 5, the accelerator team also organised a Mini-Demo Day:

- Mini-Demo Day: a check-point event where the startup teams present their progress or their company in a small group of investors who were not taking part on the mentorship before. It takes place three weeks before the Demo Day. It aims to assess the readiness and to get an initial feedback from the outsiders' perspective.

Fin-Tech:

A portmanteau of Financial Technology. It refers to a set of technologies that innovates and improves the financial services used by the business owners, workers, and customers.

Final-Demo Day: See Demo Day.

Informal Talk (or Informal Interaction):

A set of conversational activities that takes place in the co-working space area, common room, and in a car. It happens outside the mentorship sessions and networking events. Usually, it happens while waiting for the next mentorship session, having lunch or on the way to a networking event.

Intensive hub:

A hub with a short-period of programming, plenty of activities, and high pressure.

Kick-off Meeting:

The opening meeting or the very first meeting to start the three-month (12-week) acceleration program.

Mentorship:

A transfer knowledge activity where a mentor (or coach or a mentor who is also an investor) and a startup or more than one startup team discuss a specific topic about developing a startup company. For the batch/programme studied in Chapter 5, the organiser had two kinds of mentorship:

- Class mentorship: an activity of knowledge and experience transfer with a classroom-style where all the participants and the hub management team were sitting in a 230sqm-meeting-room with capacity for up to 230 people and listened to the speaker (mentor or coach).
- One-on-one mentorship: a two-way knowledge and experience transfer with a consultation style where the participants, mentor and accelerator's team were sitting together in the smaller rooms with the capacity of six people and eight people.

Media exposure activity:

An activity led by the accelerator team or VC team to promote or publish the startup companies. It aims to bring awareness and increase the reputation of the startup team, accelerator team, VC team and accelerator's/VC's partners.

Med-Tech:

A portmanteau of Medical Technology. It covers a broad area of the usage of technology for medical, or in a broader term, health. Therefore, med-tech can be understood through a definition of health technology by the WHO: "the application of organized knowledge and skills in the form of devices, medicines, vaccines, procedures and systems developed to solve a health problem and improve quality of lives".

Networking Event:

An external (outside the accelerator's office) event that organised by internal accelerator team or by external parties. For the batch/programme studied in Chapter 5, a networking event organised by the accelerator and the VC can be a networking party, technical meeting, and press conference. A networking event organised by an external party can be a seminar, conference, launching event, exhibition, and Demo Day.

Pitch Deck:

A presentation slide (can include video or other multimedia formats) prepared by a startup team to briefly explain the company. It usually contains the reason a startup exists, the services/product it offers to users, market potential, team composition, and future-strategic plan.

Pre-acceleration stage:

A period for the accelerator team to do: participant recruiting, programme planning, approaching candidate mentors/investors, and detailed scheduling. For the batch/programme studied in Chapter 5, the recruitment started four months before the Kick-Off Meeting.

Proven product:

A product or prototype from a startup company that has been successfully tested or in the process of testing.

Proven revenue stream:

A business model of a startup company such as subscription-based or advertising-based or freemium-based. For the batch/programme studied in Chapter 5, the studied startup companies mostly have generated income from their product or services.

SaaS:

Software as a Service (SaaS) is a kind of online service provided by a software owner/provider to the users, for example, Google Docs. A user has to subscribe (sign-up) to get access to the software through a web browser.

Seeding:

A set of activities to nurture and accelerator the growth of a startup company through various formal and informal activities, and material and non-material support. It focuses on the early-stage startup companies who have a prototype or just starts the marketing.

Seed Funding:

A very early investment or funding for a startup company to support their early operation and/or to be ready for the next round of investment —usually, it follows by a Series-A Funding. At the time of the study in Chapter 5, seed funding is from the range of USD 50,000 – USD 1 Million [VC2].

Series-A Funding:

A funding stage for an early-stage startup company. At the time of the study in Chapter 5, a series A funding is from the range of USD 1 Million – USD 10 Million [VC2].

Startup-Investor Zone:

A ‘zone’ created by the accelerator team to facilitate startup team to have a ‘space’ with an investor so that they can have detailed conversation about the product and its market/investment potential.

Startup World Cup:

It is a global event that brings startup companies to compete in the different ‘elimination rounds’. At the time of the study in Chapter 5, it is organised by a VC,

who happened to be the VC partner of the studied accelerator. For the regional selection stage that took place in Indonesia, the VC and BEKRAF jointly organised the competition. The regional winners then came to and competed in the final round in San Francisco.

Vertical portfolio:

Vertical or the vertical market means going for one specific aspect of an industry or one segment of a business. Thus, a VC with vertical portfolio refers to a VC that focuses only to work only with a startup that works a niche or specific segment of business or industry such as financial technology (fin-tech). The opposite is the horizontal market (a mixture of different aspects of industries).

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