The Role of Innovation Hubs in Development: Insights from Case Studies in the UK and Zambia

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Declaration of Authorship

I Andrea del Pilar Jiménez Cisneros hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated. This work has not previously been submitted in part or in whole to any university for any degree or other qualification. In accordance with regulations of Royal Holloway, University of London, the dissertation contains no more than 100,000 words of text.

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ABSTRACT

This research studies innovation hubs as part of a wider phenomenon of innovation for development. Innovation hubs are collaborative spaces for entrepreneurs that include aspects of coworking, incubators, innovation centres and makerspaces. Despite the lack of clarity of what impact they have, hubs have been spreading in the Global North and Global South, funded and promoted by international agencies and local governments as spaces that promote entrepreneurship, innovation and economic growth. My research critically evaluates the discourses of innovation for development and examines the implications of innovation hubs for beyond the mainstream development perspectives, drawing upon two case studies of innovation hubs in Zambia and the UK respectively.

Innovation hubs provide the resources needed to catalyse entrepreneurship and innovation, yet understanding why hubs are important organisations to sustain and support is unclear. In the broad discourse, innovation hubs have been considered as grassroots organisations, stepping away from the top-down, policy driven push towards innovation. They are, however, mainly funded and promoted by international organisations and government bodies. Consequently, they are expected to create successful ventures, contribute to job creation and innovation development.

This is aligned with the literature of innovation for development that typically sees innovation as a main driver of economic growth and competitive advantage. From this perspective, innovation in the Global North is presented as a hegemonic practice that should be adopted and diffused to the Global South, resembling a catch-up process and a unilinear path towards progress (Massey 2005). Furthermore, where innovation has been framed to include the poor and the most marginalised, it does this by looking at people based on their economic capacity, rather than their freedom to live a valuable life (Sen 1999). By adopting a narrow focus on economic growth and incorporating the poor in the distributive market system, what is missing from these views is an analysis of how individuals perceive themselves in innovation, and how social, historical and structural forces shape these perceptions.

This shortcoming, that I label '*the invisibility of people*' in the innovation for development discourse, will be addressed by drawing upon three theoretical perspectives: Doreen Massey's spatial conceptualisation of development, Amartya Sen's Capability Approach, and situated intersectionality, developed by feminist scholars.

This is a thesis in alternative format, consisting of three academic papers — submitted to journals and conference proceedings — and a short thesis that seeks to conceptualise innovation as a mechanism for development from a human-centred perspective, with potential to expand individual's freedom and situated agency. Empirical research of the thesis consists of two qualitative studies of two innovation hubs based in London (UK) and Lusaka (Zambia) respectively. Data collection was undertaken between 2014 and 2015 using methods including ethnography, participant observation and semi-structured interviews.

The first paper applies Doreen Massey's spatial perspectives to argue that innovation for development could be framed from a multiplicity of perspectives that breaks the power geometry and advances a more holistic approach. The second paper continues developing such arguments, and applies Amartya Sen's Capability Approach to explore whether members of an innovation hub in Zambia perceive capability expansion by being part of innovation processes. The third paper applies the concept of situated intersectionality developed by feminist scholars to look at how women members of both hubs experience their agency to innovation as situated in specific socio-historical contexts and framings of innovation that are normally associated with masculinity.

Through the application of these theoretical approaches, I argue that innovation for development is shaped by global narratives of innovation and local sense making. As such, this process follows multiple trajectories and has an impact on freedom and choice expansion, as well as inclusion. Innovation for development then is a process by which people develop capabilities in multiple aspects of their agency and wellbeing.

Keywords: Innovation, development, innovation hubs, inclusion.

ACKNOWLEDGEMENTS

"Whatever you choose, however many roads you travel, I hope that you choose not to be a lady. I hope you will find some way to break the rules and make a little trouble out there. And I also hope that you will choose to make some of that trouble on behalf of women."

- Nora Ephron.

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List of Acronyms

BoP	Bottom of the Pyramid
CEO	Chief Executive Officer
DoI	Diffusion of Innovation
ECIS	European Conference on Information Systems
EOSG	Executive Office of the Secretary-General (EOSG)
EU	European Union
G20	Group of Twenty
GSMA	GSM Association
GRIPs	Grounded Innovation Platforms
GDP	Gross Domestic Product
GEI	The Global Entrepreneurship Index
HDCA	Human Development & Capability Association
HDI	Human Development Index
ICT	Information and Communication Technology
IMF	International Monetary Fund
IT	Information Technology
ISJ	Information Systems Journal
IFIP	International Federation of Information Processing
ITD	Information Technology for Development Journal
ITDG	Intermediate Technology Development Group
ISO	International Organization for Standardisation
IS	Information Systems
MDGs	Millennium Development Goals
NSI	National Systems of Innovation
NGO	Non-governmental Organisation
OECD	Organization for Economic Co-operation and Development
PhD	Doctor of Philosophy
R&D	Research and Development
SIDA	Swedish International Development Co-operation Agency
SMEs	Small and Medium size Enterprises
S-Curve	

STI	Science Technology and Innovation
SRA	Social Research Association
S&T	Science and Technology
TAM	Technology Acceptance Model
TQM	Total Quality Management
UK	United Kingdom
UN	United Nations
UNICEF	United Nations for Children
USA	United States of America
USAID	United States Agency for International Development
UNDP	United Nations Development
WFP	World Food Program

Preface

In the summer of 2015, I undertook a three month internship at a United Nations organisation based in Geneva[1]. Since the beginning of that year, this organisation had been given the mandate to develop a strategy to support national and regional Information and Communication Technology (ICT) ecosystems, with a strong emphasis on ICT Small and Medium Enterprises (SMEs). This initiative was sought to align a number of partner organisations working to support entrepreneurship and innovation in different parts of the world. This was a multi-stakeholder partnership including international organisations, private sector organisations as well as academia and think tanks.

The idea of the partnership was to share initiatives and best practices to allow the UN member states to take more informed decisions and develop better policies to support their local innovation ecosystems, including organisations such as innovation hubs and incubators. The focus was to influence policy by setting a set of criteria by which the initiative was aligned.

As part of my internship, I was involved in a mapping of hubs across the world, a literature review of innovation and development and some desk interviews with innovation hub managers in different parts of the world. Given my interest in the subject I also took part in many meetings where the design of the partnership as well as the rationale for it was being developed. By this point I had already conducted my fieldwork at an innovation hub in the city of Lusaka, Zambia and had already started attending an innovation hub in London, UK. Subsequently, I had an idea of how hubs were working, how they got their funding, and what type of works members were doing.

Given this, it was surprising to me that the discussions I had during my internship were aligned more with supporting these organisations for their potential impact on economic growth and job creation, but failing to consider other dimensions. In this respect, when I thought of data from my interviews with hub members and managers, I could see a mismatch between the priorities presented in this UN initiative and what was perceived as valuable at the hubs I was researching.

This organisation considered that innovation hubs worked as incubators, and thus their sole function was to 'incubate' business and scale startups so they can generate revenue. However,

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[1] I will keep anonymity of this and all the other organisations discussed in my study.

from my experience during the fieldwork, I could see that hubs had a much broader, flexible function. I sensed an issue when most of my conversations with members of the UN organisation were about how hubs could produce high-growth firms whereas my conversations with members of innovation hubs were about how to enhance the community so people could follow their passions.

This was confirmed to me when we started calling hub managers across the world to interview them. The majority of the many questions we had to ask were focused on the number of startups being developed within the hub, the number of investors they have within their network, and the amount of time startups were being 'incubated' within the hub. These questions were received by many hub managers with discontent, and they responded quite annoyed by the fact that most of our questions were business-centric, whereas their interest and work was focused on the people within their community.

This experience reminded me of another anecdote whilst conducting fieldwork at the Zambia hub. The hub managers were applying for funding to an international organisation. As part of the funding application they were asked to state how many startups would be incubated within the hub in the timeframe of one year. There were three options to select from: 50 – 100 minimum; 100 – 150; or 150 – 200 startups. The hub managers expressed to me their frustration and disappointment with this type of question. '*We would be lucky if we manage to scale up two startups in one year*' one of the managers said to me. The strong focus on number of startups spoke of a lack of understanding of what was actually happening at the hub, but it also spoke about what funders were interested in.

By offering funding with those kinds of targets, there is a risk that innovation hubs are being set up for failure. '*What is the purpose of incubating 200 startups if none of them will help solve local problems?*' I wondered. '*Where is this push for business development and growth coming from?*'

This thesis is part of a journey I took four years ago to explore this mismatch.

CHAPTER 1
INTRODUCTION

1. Innovation for Development

Development as a concept has been defined and proposed in different ways (Rogoff 2003; Willis 2005). Likewise, development practice has followed by implementing different initiatives and advocating for different things. As part of this evolving and dynamic nature, there have been a series of buzzwords that have echoed the imaginaries and actions of many working in development organisations. '*Community participation*' was the buzzword around the 1970s, followed by '*participation*' in the 1980s and '*accountancy*' and '*transparency*' in the 1990s (Cornwall & Eade 2010). '*Sustainability*' is another catchy buzzword that has been crucial in the past three decades (Scoones 2007).

According to Pansera (2014 p.268), buzzwords are interpretively flexible and deliberately vague so they can host multiple political agendas. An example of this was provided by Scoones (2007), who reviewed the history of '*sustainability*' in development discourse and practice, showing how it became a central focus on global debates, bringing together actors from different spheres to all agree in the need for it.

With more recent transformations and as a result of the 'cross-pollination' of business and management (i.e. the private sector) with development, it is argued that the latest of such buzzwords is '*innovation*' (Krause 2013; Pansera & Martinez 2017). In November 2011, Bill Gates addressed the G20 country leaders to describe the 'paramount importance of innovation' for development[2]:

> "I believe innovation is the most powerful force for change in the world. People who are pessimistic about the future tend to extrapolate from the present in a straight line. But innovation fundamentally shifts the trajectory of development."

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[2] "Innovation with Impact: Financing 21st Century Development". Gates (2011) https://www.gatesnotes.com/Development/G20-Report-Innovation-with-Impact Accessed 06-06-17.

Innovation is proposed as a mechanism for development that focuses on "[…] autonomy, self-sufficiency, local communities of producers and appropriate technology" (Pansera 2014 p. 276). Several of the United Nations agencies embraced this by creating a set of innovation principles[3], originally developed by UNICEF and then adopted by The Bill and Melinda Gates Foundation, USAID, UN Foundation, WFP, UNDP, the EOSG (Global Pulse) and others. These principles include values of openness and collaboration and practices (e.g. being data driven, designing for scale, etc). Many of these institutions opted to embrace the innovation shift, collaborate with the private sector and encourage private capital. The pivotal role that the private sector has involves re-shaping the way many international organisations operate (Bloom & Faulkner 2016).

Where did these ideas come from? During the 1980s and 1990s, a considerable body of work was undertaken to develop models and analytical frameworks for the study of innovation (OECD 2005). The first edition of the Oslo Manual, published in 1992, showed significant differences between the 'developed', where this innovation took place, and 'developing' countries[4]. A series of publications, including innovation indicators and databases, were developed as part of the OECD's efforts to stimulate an innovation for development agenda. Overall, what this strategy stressed was the "importance of innovation for growth, the need for a coherent approach to policy, recognition of the contribution of entrepreneurs, and the strengthening of mechanisms that convert knowledge to jobs and wealth" (ibid, p. 15).

The involvement of innovation in development was not random or arbitrary. As with many other buzzwords in development, it was directed from the 'West' – the developed and industrialised economies – to the 'Rest' – the 'developing' countries (Mahbubani 1999). According to the OECD, 'developing countries' needed to look at the OECD countries to innovate and grow more rapidly (OECD 2009 p. 12). Examples of emerging market countries that have successfully played the 'catch-up game' are Korea, Brazil, India, China, South Africa, Chile and the Russian Federation.

Underlying in the request to form partnerships between the poorer countries with the 'developed' ones, there is a power disparity, which says that poorer countries should adopt the technical capabilities generated in the developed countries to get out of poverty, resembling a process of imitation and diffusion hidden in innocuous partnerships. By 2004, the World Bank stated that

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[3] 'Principles of Innovation' UNDP http://www.undp.org/content/undp/en/home/ourwork/development-impact/innovation/principles-of-innovation.html Accessed 29-06-17.
[4] In this thesis I will write 'developing' and 'developed' in single quotation marks for reasons that will become clearer in Chapter 2.

"[…] developing countries face genuine obstacles to innovation and this is precisely why they remain underdeveloped" (Aubert 2004).

It is from these issues, the cross-pollination of the private sector in development and the catch-up from the West to the rest, that the idea of this thesis was inspired. If innovation enhances development, then in what ways has it been conceptualised? From what perspectives or frameworks? What are the implications of selecting particular approaches to innovation and ignoring others? Is innovation more than just a buzzword in development? Is innovation the solution for development? All these questions have guided and inspired me to undertake this research.

This thesis looks to understand more about the innovation for development phenomenon that for so long has been seen as a main driver of economic growth and competitive advantage. Innovation, broadly defined as "[T]he development and delivery of new ideas and solutions (products, services, models, modes of provision, processes) at different socio-structural levels […]" (Nicholls & Ziegler 2015 p. 4), has been studied as technological innovation (Utterback 1971), product innovation (Dougherty 1992), process innovation (Davenport 1993), organisational innovation (Daft 1978), and many more.

This research critically evaluates the discourses of innovation for development and examines the implications of innovation for development beyond the mainstream development perspectives, drawing upon two case studies of innovation hubs in Zambia and the UK respectively.

This thesis is looking to explore this phenomenon by looking at innovation hubs, which are organisations that embody the innovation for development discourse. The rest of the chapter is structured as follows. The next section (1.1) will introduce the innovation hub phenomena and as part of the innovation for development discourse of international organisations. Section 1.3 will introduce the research questions of this study. What follows is an overview of how this thesis is structured, and concludes by introducing the publications that form part of the study.

1.1 The innovation hub phenomena

The aim of this section is to present the large spread of hubs, what they do, how they are perceived and how they resemble the innovation for development phenomena.

1.1.1 What is an innovation hub?

An innovation hub is a physical space where entrepreneurs come together to collaborate on shared new initiatives. There is no official definition of what constitutes an innovation hub. In this thesis, I use the term broadly to include aspects of innovation labs, coworking spaces, technology hubs, incubators, accelerators, fab-labs and makerspaces.

> "Incubators, co-working spaces, start-up spaces, innovation centres, maker spaces, research institutes—these represent just some of what is now a growing portfolio of workspaces cradling the process of innovation. As their geographic footprint across cities and towns grows, questions arise on what distinguishes the various workspaces. […] it is increasingly the case that innovation spaces are blurring in distinction—offering a range of support or activities that at one time were found in separate spaces." (Wagner & Watch 2017 p.11)

In the last decade, there has been a spread of organisations known as innovation hubs which, by self-attribution, are claimed to encourage collaboration between its members and support serendipitous knowledge necessary for the stimulation and strengthening of businesses and projects (Olma 2012).

In some cases, the 'hub' label is used interchangeably with other labels, such as labs (Schmidt et al. 2015), social incubators (Nicolopoulou et al. 2015) and coworking spaces (Parrino 2015). These all constitute spaces for people (mainly entrepreneurs) to connect, collaborate and be inspired in a conducive environment "where unlikely allies would meet by serendipity" (Bachmann 2014). In this respect, hubs have been described as spaces that attract diverse members with heterogeneous knowledge (Toivonen & Friederici 2015). The notion behind this is that if a space gathers individuals with different skills and backgrounds, then there is more

potential for collaboration because people can provide different types of knowledge, resources and networks.

Despite conceptual clarity, hubs have been categorised in a number of ways. The World Bank separates hubs based on what institution is leading the work and identifies four main categories: government-led hubs, civil society led hubs, academic institution led hubs, and hybrid hubs (Kelly & Firestone 2016). Furthermore, Beer et al. (2017) propose to categorise hubs as 'cluster hubs'; 'company hubs' and 'country hubs'. The authors defined each category as:

> "First, a 'cluster hub' refers to a cluster of distinct entities that are located physically close to one another, and therefore tend to promote regular and intimate interactions. […] Second, a 'company hub' describes a hub as a specific entity, attracting and defining its own community, and interacting with the outside world in a manner similar to a company. […] Third, a 'country hub' tier reflects a more macro view of a hub, where an entire country or region advertises itself as a progressive hub, and government policies guide the actions of the country or region." (p. 13)

These different types of categorisations abound in grey literature, and there does not seem to be clear consensus on how to differentiate them. Despite this, several organisations have developed mappings of hubs, trying to look at the large spread of these from a regional or global perspective. From a regional dimension, examples of these mappings include the GSMA 2014 map that measures 341 active tech hubs in 42 of the African countries[5]; The World Bank mapped 173 tech hubs in 2016[6] in the African continent.

At a global level, the Open Movement is a website[7] that maps hubs from different parts of the world, showing a total of 720 hubs in different continents. This website also gathers a number of documents and reports for hub managers. One of the resources is a 'community toolkit', which is a free, online resource to "build healthier communities and bring about social change".

Another tool is called 'Hub in a Box' and works as an online repository of resources for hubs. The website contains reports and videos on issues that will help build sustainability around hubs:

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[5] https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/08/Tech-Hubs-in-Africa_Infographic.pdf
[6] http://pubdocs.worldbank.org/en/765531472059967675/AFC42460-081716.pdf
[7] http://movement.open.co/tools Last accessed 10-06-17.

"We want to find and share real ways to create sustainable business models for different types of hubs—innovation spaces, makerspaces, coworking spaces, fab labs, and incubator/accelerator programmes. We're working with people who've survived failures or are implementing innovative approaches worth sharing. So please dive in."

Perhaps because of its fuzzy origins and confusing nature, organisational and management literature has not engaged thoroughly with these emerging type of organisations.

1.1.2   Spread of hubs to the Global South

The origins of the word 'hub' to label these types of organisations are unclear. One of the first hub organisations was developed in London in 2005. The idea of this hub emerged in the wake of the anti-globalisation movement that arose at the turn of the millennium (Bachmann 2014). It looked to create a space for people with alternative models for 'systems change'. Throughout the years, the concept expanded, with hubs being set up in different parts of London, and then the world.

Even though they are all different and context-dependent, there are three main components they usually share: they seek to host a community of passionate and entrepreneurial people. They also provide a physical space that is set to encourage collaboration amongst its members. Finally, they seek to provide resources for members to innovate and achieve their objectives. These can be in the form of thematic events, incubation services, social and networking activities, training and programmes. Depending on the context, they would also be funded by government bodies, international organisations, technology corporations, or development organisations (Friederici 2017).

As mentioned previously, even though there is no official definition, innovation hubs have been spreading widely, both in the Global North and the Global South. This has implications when attempting to characterise the size and scale of their growth.

In the Global South, a very popular group of hubs in sub-Saharan Africa are known as technology and innovation hubs (iHub, Bongohive, CcLab, Klab, etc.). Depending on what conception of 'hub' is being used, we can count 100 or 200 hubs in this region.

The first hub in the African continent was founded in Kenya – Erik Hersman founded the iHub, in 2010. Having been previously successful in developing Ushahidi (a non-profit technology company with a focus on collecting and visualising data from the crowd), Hersman co-founded the iHub with colleagues and local entrepreneurs, prioritising the Kenyan tech community.

Despite having a strong focus on local conditions and needs, Sanderson (2015) explains how the iHub initially adopted certain aspects of hubs from other parts of the world:

> "Inspired by successful co-working spaces across the world, the team went to work transforming the sterile office block into an interactive hive. They threw bright green paint on the walls, installed a snappy Internet connection, and imported a slick Italian espresso machine." (p.6)

Throughout the years, the iHub has been the most popular hub in the African continent. It has hosted many international events and been visited by relevant people like Uhuru Kenyatta (Kenya's president), Ban Ki Moon (UN General Secretary), Mark Zuckerberg (CEO and founder of Facebook), Eric Schmidt (former Google CEO), and others (Friederici 2017).

1.2 Hubs as innovation for development

Technology and innovation hubs have brought a lot of attention to the continent, as spaces that can develop technological innovations that are successful in their local markets. As Tayo Akinyemi, Director of the AfriLabs Association, a network organisation for the growing number of African technology and innovation hubs, says: "Tech hubs serve as the infrastructure needed to catalyse African technology, entrepreneurship and innovation. They provide the people, power and (internet) pipes that make great things happen." [8]

In the broad discourse, innovation labs and hubs have been considered as grassroots organisations, stepping away from top-down, policy driven drives towards innovation (GIZ 2013). Moreover, even though the outcomes of hubs are not yet clear, there are high expectations that innovation hubs represent a model for promoting entrepreneurship, innovation and economic growth that has been championed in economically advanced areas and can be successfully transferred to the Global South.

For some, hubs provide the infrastructure needed to catalyse African technology, entrepreneurship and innovation, yet understanding why hubs are important organisations to sustain and support is unclear. Tayo Akinyemi raised this concern in 2014. She acknowledged that in most cases hubs have been emerging as grassroots organisations that aim to benefit society, and yet what this means depends on whatever is decided by the hub managers and community involved. However, because many hubs rely heavily on donor money, they are required to meet a set of criteria proposed by the donor organisation. In some cases, as will be

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[8] 'Tech hubs must "innovate or die"' (2014) http://disrupt-africa.com/2014/12/tech-hubs-must-innovate-die-afrilabs/ Last Accessed 27-06-17.

explained later on, the criteria proposed by the donor organisation can be counterproductive for the work being done within the hub.

The unclear trajectory of the innovation for development discourse has transcended into these organisations to provide a level of embedded autonomy that does not exist with other types of labels. There is a 'no one size fits all' model of hubs, which fits neatly within the innovation discourse. And so, hubs are organisations with an unclear definition and unclear path, yet they have been spreading significantly and have been receiving much attention from international institutions that promote the innovation for development paradigm.

The hub phenomenon in Africa is part of the wider discourse of innovation for development. Friederici (2017) explains how iHub's vision to be a positive contributor to local economic development was translated over to African hubs in general. From its inception, the iHub positioned itself as a catalyser for development in Kenya, by filling a gap in the market between the need for technology and the lack of local content available. Such discourse proved appealing for many other African countries, which consequently followed suit. Hubs were established in various African cities, following the same criteria. These have been envisaged to provide a positive impact in their communities. In 2014, two development organisations, Hivos Foundation and The Indigo Trust, alongside DOEN Foundation, launched a fund for African tech hubs and stated:

> "We see the potential of technology to contribute to huge social changes within societies in Africa. And we believe that solutions to societal challenges should be devised locally. Hubs build communities which encourage collaboration and innovation. We believe that through providing state of the art facilities, fast internet, events, mentorship and training to tech entrepreneurs, hubs will increase the quality and quantity of applications being developed in African countries." (Treisman 2014)

A current discussion around this phenomenon is on what a hub's indicator for success should be. For some, it is a hub's possibility to create successful ventures – to develop innovations that would succeed in the market. Such a view would look at the number of startups created, the patents developed, the amount of investment received.

By 2016, the World Bank published a report titled 'How Tech Hubs are helping to Drive Economic Growth in Africa' where they highlighted the role of hubs in being a rich source of employment and business formation.

According to the report, some of tech hubs in Africa follow a 'classic Silicon Valley type

incubator model', while others follow offer more open-ended models, prioritising training and promoting collaboration. Whilst the former group tends to succeed in the market given that they secure a significant share in the tech market, encourage investment and thereby overall understanding of growth models, the latter group tends to struggle financially because the 'lack of clarity' of whether they function as a non-profit or profit-making enterprise. Given this, the report recommends that these type of hubs are better structured so that '[…] their business plans match the needs of their operating environment" (p. 13).

The report then focuses on the impact of tech hubs in the market, prioritising more business-centred models. Those who share this argument have already started writing about the failure of hubs, because they have not been able to produce the same outcomes that incubators in other parts of the world have. An article[9] written in *The Economist* in 2017 was already signalling the failure of hubs, explaining how some hubs have already shut down given that they were not able to find sustainable business models. The heavy reliance African hubs have on grants seems to predict that these will not help develop successful businesses and innovations.

A GIZ report published in 2013 describes African tech hubs as grassroots organisations embracing the 'digital and mobile boom the continent is currently undergoing' (p.4) By writing 'From Silicon Valley to Silicon Savannah', the report explains that the idea of an innovation hub was created in the West and then copied into the African continent, establishing a connection from Western hubs to African hubs.

Hubs are becoming so popular that *they are even having an economic impact*, the report argues: 'Today, young people see a future in the growing private sector economy instead of the aid industry.'

These reports are some of the few that have been highlighting the role of hubs in African economy. Notably, to date there is still very little evidence of the impact of hubs in development, although the focus seems to be on what evidence there of impact on economic growth, in the form of investment, job creation and business development.

Overall, to date it is clear that there is little evidence of the impact of hubs in development, but this lack of evidence has not had an impact on their spread and support from development organisations.

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[9] "Hurdles for hubs: Encouraging African entrepreneurship" (2017).
http://www.economist.com/news/business/21720344-only-one-incubator-continent-profitable-without-grants-encouraging-african Accessed 07-06-17

1.3 Research Questions

Despite the vast spread of and popularity of innovation hubs, they are under-researched. There are two levels of confusion that impact how hubs have been studied so far. The first is the fact that many use the label interchangeably to describe what are known as incubators or just coworking spaces. This prevents any clarity in what they are and what they do. Wherever hubs are mentioned in any academic discussion, they need to be defined and explained, as it is very likely that someone in the discussion might understand hubs differently. In fact, from my conversations with some academics, I understand there is often a sceptical belief that the 'hub' label is just a trendy word for incubators and technology parks, and is nothing more than marketing rhetoric. In this respect, given the vast research that has been done to understand these entrepreneurial organisations, the same lenses could be used to look at the hub phenomena.

The second confusion revolves around the expected outcome of hubs. Even though the impact of hubs is unclear, they have been promoted and implemented in many parts of the world. Despite the difficulties in knowing what hubs are, what they do, and how to benchmark their impact on societies, they have been eagerly adopted to support initiatives aimed at promoting entrepreneurship and innovation as development mechanisms. Development organisations and others advocate on behalf of hubs, describe them as spaces that will help create jobs, and ultimately inject money into the economy. In this respect, hubs are given a set of criteria for donor money that fails to grasp what hubs are actually achieving.

Nevertheless, if innovation hubs are to have an impact in development, then it is important to know what is this impact and how to frame it.

Given this, the main research question of this study is: *Can innovation be a mechanism for human and inclusive development?*

As such, I present three specific research questions that start from a broader basis to ones that are more specific. To begin with, I ask:

- '*How should we conceptualise innovation for development*?';

- '*What is the impact of innovation in human development*?';

- '*How can innovation for development be inclusive of dimensions of inequality*?'.

The rest of this thesis is looking to answer these research questions.

1.4 Structure of the thesis

This thesis follows an alternative thesis format and has been prepared in accordance to the indications in 13 paragraph 14b taken from Research Degree Regulations 2015-2016.

This is a thesis by publication that gathers three academic articles that were submitted in 2016 and 2017 to both academic journals and conference proceedings. The three papers together contain framing, linking and concluding material that looks at the innovation for development discourse from a human-centred perspective.

Chapter 2 presents an elaborated literature review of innovation for development;

Chapter 3 covers the theoretical approaches used to provide a theoretical contribution;

Chapter 4 explains the methodology adopted for this study and the research process;

Chapter 5 integrates the findings of all three papers and discusses how they align with the research questions. It also states the empirical, methodological and theoretical contributions;

Chapter 6 concludes this thesis by providing a summary of the main takeaways of this study.

1.4.1 Publications

Three publications gather empirical evidence, findings, and theoretical contributions of this study. The specific information about each paper is:

1. **'A Spatial Perspective of Innovation and Development: Innovation Hubs in Zambia and the UK'**

Type: Conference paper

Status: Published on 16th May, 2017

Authors: Andrea Jiménez & Yingqin Zheng

This paper was presented in the conference proceeding: Working Group 9.4 of the International Federation of Information Processing (IFIP). 'ICTs for promoting social harmony: Towards a sustainable information society.'

My role in the paper: 1st author. I conducted the selection of case studies, data gathering and literature review. I transcribed the interviews and did the data analysis. I researched the theoretical perspective and did most of the writing of the paper.

Summary of the paper: This paper draws on Doreen Massey's theory of space-making to show how the social and economic context of hubs influences its members' construction of concepts of community, collaboration and development in two innovation hubs in London and Lusaka respectively. The paper argues that what counts as innovation is often constructed in Western discourse and projected onto African realities and contests this by showing how different hubs produce distinct forms of collaboration and innovation for development. The aim of this paper is to explore alternative narratives of innovation hubs through a spatial perspective with the aim of revealing a multiplicity of forms for these hubs.

2. 'Tech Hubs, Innovation and Development'

Type: Journal article

Status: Published on 5th of June, 2017

Authors: Andrea Jiménez & Yingqin Zheng

Information Technology and Development (ITD)

My role in the paper: 1st author. I conducted the selection of case study, data gathering and literature review. I transcribed the interviews and did the data analysis. I researched the theoretical perspective and did most of the writing.

Summary of the paper: This paper draws on the capability approach by Amartya Sen to evaluate the implications of innovation hubs in Human Development. It focuses on an innovation hub in Zambia to argue that hubs, as collaborative spaces, may contribute to human-centred development processes in ways not directly linked to employment or market-based products.

3. 'Inclusive innovation and situated intersectionality: Insights from innovation hubs in the UK and Zambia'

Type: Journal article

Status: Under review

Author: Andrea Jiménez

Journal: Innovation and Development

My role in the paper: 1st author. I conducted the selection of case study, data gathering and literature review. I transcribed the interviews and did the data analysis. I researched the theoretical perspective and did all of the writing of the paper.

Summary of the paper: This paper focuses on the social construction of gender of two innovation hubs to see the extent to which they are inclusive spaces. It does so to explore how the inclusive innovation concept can be used to address existing shortcomings that speak of theoretical weakness. The theoretical perspective adopted here is situated agency through the lenses of intersectionality. Findings include that while female members of the hub attribute discrimination primarily to their gender, there are other parts of their identities that intersect to

enhance their perception of disadvantage. As such, while some hubs can provide a more inclusive space, they can also reproduce and reinforce the gender inequalities present in the wider societal context.

CHAPTER 2
LITERATURE REVIEW

2. Literature Review

This section will present an overview of the innovation for development academic literature. It focuses on conceptualisations of innovation that have been framed as a mechanism for development or progress of a specific country, region or community.

In this study, the concept of development underlies the concept of innovation. As such, I will start by introducing the main approaches to development that been proposed and developed throughout time. First, I will present the development perspectives that have been widely applied in the literature, namely modernisation and dependency theory. What follows is the neoliberal view of development. This section finishes with a short summary of alternative perspectives of development, including sustainability and livelihoods framework.

The second section of this review focuses on innovation for development. From the vast number of disciplines that touch on the subject (management, development, human geography, etc.) to the variety of formulations of what innovation is (a process, a product), the fragmentation of our understanding of innovation for development makes it problematic to label it as a *literature* on innovation for development (Pansera 2014). Therefore, in recognition of this challenge, I start by presenting concepts that have implicitly or explicitly attempted to explore '*how can innovation drive development*'. This includes concepts like National Systems of Innovation (NSI), Diffusion of Innovation (DoI) and Technology Aceptance Model (TAM). I then present concepts of innovation framed mainly as the inclusion of the poor in innovation and the expansion of unsaturated markets.

To the best of my knowledge, these include the ways in which innovation as a concept has been used as a mechanism for development.

I then link the development approaches with the innovation concepts that have been presented in this review; altogether, these integrate the literature of innovation for development. I do not consider this review as exhaustive, but more as illustrative. The concepts presented here are only

a few that are considered the most relevant. This review finalises with a discussion of the review and the gaps identified.

2.1 Theories of Development

The meaning of 'development' is culturally defined and changes over time and space (Rogoff 2003 p.3). Whilst development is universally understood to mean a change from one state to another, exactly what constitutes 'good change' (Chambers 2004) and how change is measured is widely contested (Sumner & Tribe 2008; Willis 2005). A brief history of development studies begins with a discussion on economic growth and modernisation theories, followed by dependency theory.

Without going into too much detail, I will explain what these theories entailed. However, suffice to say now that in a broad sense, development is seen as the "bridging of the gap by means of an imitative process, in which the less developed countries gradually assumed the qualities of the developed" (Hettne 2008 p. 8). Furthermore, it is also necessary to mention at this point that both economic growth and development were viewed as positive goals to be achieved, and the propositions for it were normally conceived to have 'universal applicability' (Sartori 1970). What this meant was that development everywhere referred to economic growth (Billet 1993). This view has remained a powerful one throughout the years.

2.1.1 Perspectives of development

Modernisation and dependency theories

For several decades, the mainstream notion has been to equate development with financial income (Chambers 2004). These theories were mostly informed by classical social theory, mainly through the thoughts of Marx and Weber (Makki 2015). After World War II, development as an autonomous, interdisciplinary field with its own theoretical approaches started taking form. Initially it was influenced by an orthodox paradigm or 'classical discourse' that held modernisation as the main argument (Billet 1993). With its roots in positivist tradition and liberal thought, the theory of modernisation proposed an a-historical view of societal problems and proposed a unilinear, evolutionary view of development. Around the 1960s, a more radical paradigm was proposed as an antithesis to the modernisation projects. The dependency theories were more holistic in their interpretations of development, and held a more multilinear, revolutionary view of development (Chilcote & Johnson 1983).

The theory of modernisation, from which development equated with growth, was considered the result of imitation and adaptation of strategies and ideologies applied in the developed countries. The theoretical basis for this kind of development was an "*overarching process of societal modernization*" (Makki 2015 p. 474), inspired largely by the work of Max Weber. What this implied was the social, cultural, and structural forms stemming from Western societies were idealised and compared to the 'traditional' societies, or the societies in the 'Third World'. These societies were then seen as backward and deviated from the norm and as such needed to be 'modernised' (Makki 2015; Rostow 1960).

From the other side, the less 'powerful' countries in the Third World, usually former colonies in Africa, Asia and Latin America, were supposed to aim for this 'modernity' inherent from the more 'powerful' countries. The way to achieve this was through the introduction of capital, mainly from international loans and investment (Billet 1993).

What was interesting from this thinking was the certainty that despite the diverse variety of countries, with their own characteristics and histories, there was only one historical path, which was modernisation. Makki (2015) explains this resulted in a great number of 'development experts' who used to travel country to country to offer the planning and technical advice needed without much consideration of the history, culture, language or societal structures of these societies. Makki notes that all that was needed was for these "development experts" to come from "the mass consumer societies of the West" (p. 475) to know what sort of advice the Third World countries needed. In this respect, these societies were seen as if they were situated in a different time and space, and as soon as they learned the model from modern economies, then they would be able to develop:

> "Once framed in this way, development could be conceived as a series of articulated stages along a single axis of linear time, and if particular nations or regions were backward, this was because they were 'not yet' modern" (Makki 2015).

The realisation that it would take 150 years for the countries in the Global South to achieve even half of what the Western countries had started raising concerns about what modernisation theory proposed (Schuurman 2008). Around the 1960s, dependency theories started developing as a rejection of the previous dehistoricised and abstract idea of development, to pursue a more pre-elaborated recognition of the structural relationship between the industrialised economies and the Third World. Emerging from the structuralist tradition, which emphasised the severe challenges Latin American countries faced based on their *dependent* status within the international economy,

these theories highlighted that economic and political power were heavily concentrated and centralised in the industrialised countries. This created a dependence of poorer countries on the advanced economies for domestic accumulation and economic growth. Such a dependency dominates the path of development and presents only one direction for progress (Qureshi 2013).

Although all the dependency theorists recognised the problem, there was very little consensus on the solution to the situation (Willis 2005). In this respect, a distinction was made between the 'reformists' who argued for a reform of the capitalist trade system and more involvement from the state, and the 'Marxists' who considered the only solution to be the elimination of the capitalist system altogether (Clarke 2002). However, what resulted from this lack of agreement on the solution was a narrow-minded perception that all the factors from the modernisation approach were negative and as such should be rejected. Mechanisms like international trade and market were all seen to reinforce the existing global inequalities. What followed then was the acknowledgement that "dependency theory was unable to explain how the relation of dependency was reproduced and how it could be transformed" (Mamdani et al. 1988 p. 975).

Despite being extensively discussed in the literature for their flaws and limitations, aspects of both modernisation and dependency theory still appear in our worldview of development. One of these aspects is the spatial-temporal perspective.

Makki (2015) explains one of the main flaws modernisation theory and dependency theory had was due to their shared ontological and epistemological assumptions derived from classical social theory, which resulted in a somewhat fixed and unilinear ontological similarity. What these perspectives tended to see was that development was a single trajectory for all the countries and so the 'underdeveloped' countries were merely behind on the development ladder (Willis 2005 p. 77). The difference between rich and poor countries is temporal, i.e. some countries moved earlier and faster than others, so they occupy different positions on the same trajectory.

Neoliberal theory

> "Neoliberalism seems to mean many different things depending on one's vantage point."
>
> (Aihwa Ong as cited in Clarke 2008 p. 135)

Another approach to development comes with the neoliberal project. Neoliberalism is a set of economic policies grounded in a political philosophy conformed by a normative foundation, a set of ethics, and a social vision (Mclaughlin 2008). This vision is one that considers society to benefit from market competition, and where human development and social wellbeing fit secondly and constitute *means* to an *end*.

The neoliberal turn came around the mid-70s, after the realisation of the benefits of privatisation for capital accumulation, as the Chilean experiment had proved. From this trial, neoliberal advocates argued that government oversight and regulatory practices were the causes of a nation's economic stagnation, and therefore should be removed (Bay-Cheng et al. 2015). This was mainly led by the United States, under Ronald Reagan's administration but was also undertaken by other countries like the UK, under Margaret Thatcher's administration.

Furthermore, neoliberalism rests on the premise of rational, self-interested individuals that search for opportunities and resources (Bay-Cheng et al. 2015). This self-interested individual is presented in the literature as the homo œconomicus, that is, rational, risk-taking individuals seeking profit maximisation, leaving little consideration to social, cultural and institutional contexts. Foucault mentions that "Homo œconomicus is an entrepreneur, an entrepreneur of himself […] being for himself his own capital, being for himself his own producer, being for himself the source of [his] earnings (Foucault 1978 p. 226)." Entrepreneurs are people who need to respond to market changes and bear the associated risks (Dejaeghere & Baxter 2014).

Criticisms of neoliberalism have been extensive. It has been argued that many of these criticisms have been adopted as a misinterpretation of what the definition of neoliberalism is, given the dominant and hegemonic pervasiveness of the ideology (Venugopal 2015). Following this omnipresence of the concept, as per the quotation in the beginning of this section, neoliberalism is described as "the most successful ideology in world history" (Anderson 2000 p. 13).

Without going into much detail, I summarise two main critiques that are of relevance to this study. The first is the way in which many of the concepts around neoliberalism (i.e. freedom, individualism, choice, rights) have failed to recognise the need for a wider look at inequalities. This was produced because, as some argue, the neoliberal project was always intended as a way to restore power by the class elites (Harvey 2005):

> "Neoliberalization has not been very effective in revitalizing global capital accumulation, but it has succeeded remarkably well in restoring, or in some instances (as in Russia and China) creating, the power of an economic elite." (p. 19 – 20)

The second criticism is the fact that the neoliberal project has in fact increased inequalities around the world. Despite the fact that the original idea of neoliberalism did not claim that inequality is desirable, it was clearly a consequence of neoliberalism. The same principles of free market and individual freedom are also implemented differently in different contexts.

Such criticisms are claimed to be the result of a misinterpretation of the concept, given that it has been developed further by scholars from other fields than economics, where the concept has not been developed further (Venugopal 2015). In fact, John Clarke (2008) provided a non-exhaustive list to show the different ways in which neoliberalism is adopted and explained:

> "states, spaces, logics, techniques, technologies, discourses, discursive frame- work, ideologies, ways of thinking, projects, agendas, programs, governmentality, measures, regimes, development, ethno-development, development imaginaries, global forms of control, social policies, multiculturalism, audit cultures, managerialism, restructuring, reform, privatization, regulatory frame- works, governance, good governance, NGOs, third sector, subjects, subjectivities, individualization, professionalization, normalization, market logics, market forms of calculation, the destatalization of government and the degovernmentalization of the state" (Clarke 2008, p. 138)

As such, the concept of neoliberalism has been interpreted by many authors as being intrinsically evil and therefore is only proposed as a counter, negative ideology that explains various inequalities in the world. This is why it is very difficult to find papers that advocate for neoliberalism as a mechanism for development. However, it is possible to see how certain aspects of neoliberalism theory (e.g. open markets) are supported by scholars and practitioners of development.

Alternative Perspectives

Other development perspectives shift away from economic-centric views to argue for more flexible and holistic approaches to development. These include Sustainable Development and Livelihoods Framework, although there are many more. These perspectives, however, have had an influence in our understanding of development and so it is worth mentioning.

Sustainable development has been defined in a number of ways, the most frequently used one being from the Brundtlant report in 1987, which defines it as "[…] development that meets the needs of the present without compromising the ability of future generations to meet their own needs". This definition of development was popular around the 80's and 90's and until this day represents an important framework from which to asses development in international organisations. It is, for instance, a key perspective that guides the United Nations 2030 agenda for Sustainable Development Goals (SGDs).

The Livelihoods framework, generally known as the livelihoods approach, began in development studies and has evolved mainly as an analytical tool used to understand the complex issues that influence the lives of the poor (Duncombe 2006). This approach recognizes that poor people operate in a context of vulnerability, within which they have access to a set of strategies and practices to navigate in their socio-economic conditions. These strategies are the livelihood assets, which gain meaning and value through the existing and prevailing social, institutional and organizational environment (Sife, Kiondo & Lyimo-Macha 2010).

Most studies make use of this categorization to identify which of these dimensions to look at, to identify strengths and weaknesses in specific contexts. The idea behind it is that, to achieve overall socioeconomic development, contributions to multiple capitals (assets) are needed. This process includes full participation of the poor, constituting a "bottom-up" approach (Duncombe 2006).

2.2 Innovation for Development

In this section, I begin by presenting a short history of innovation to explain its strong linkage with economic growth.

2.2.1 Schumpeter and origins of innovation and economic growth (1920s)

From its origins, innovation has been studied for the role it plays in nurturing an economy and increasing competitiveness (Gopalakrishnan & Damanpour 1997). Joseph Alois Schumpeter developed the most renowned definition of innovation in the late 1920s, as "the intrusion into the system of new production functions which incessantly shift existing cost curves" (Schumpeter, 1939 p. 88). In *The Theory of Economic Development*, Schumpeter (1934) introduced the idea of creative destruction by innovations, which he termed as one of the most important causes of economic change. His work combined theoretical, historical and statistical analysis within a capitalist society and placed great emphasis on the distinction between exogenous and endogenous factors of the economic system.

Schumpeter argued "innovation is the outstanding fact in the economic history of capitalist society or in what is purely economic in that history (…)" (1939 p. 82). For him, there were a number of factors that could drive change in society, but he asserted that what led to major changes in a capitalist society was innovation.

He complemented this by asserting the role of entrepreneurship for innovation, resulting in the close and almost intertwined relation of these two words up to the present day. For Schumpeter (1939), the disturbance in the economic system was due to entrepreneurial actions and, in fact, innovation was necessarily carried out by an 'entrepreneur', as "A man who carries out a "new combination […]" p. 102).

Schumpeter describes this entrepreneur as someone who counts with a degree of leadership that allows him to translate means of production into new channels and holds "[…] the will to conquer: the impulse to fight, to prove oneself superior to others, to succeed for the sake, not of the fruits of success, but of success itself..." (p. 93).

The effect that Schumpeter's work had in the development of innovation as a major driver of economic development followed throughout the years and transcended the academic boundaries where they originated. Schumpeter was an economist, and wrote mainly in this field. Furthermore, Schumpeter wrote in a specific point in history and was influenced by particular experiences in countries like Germany and the United States. He was explicitly opposed to

Marxism and socialism. As such, his discipline, his context and political views are all factors that influenced his ideas and how he envisaged innovation as the main factor for growth.

In this respect, it should be questioned whether, for instance, Schumpeter would have arrived at the conclusion that "*the only man the entrepreneur has to convince . . . is the banker who is to finance him*" (Schumpeter 1934) if he had lived in a country where weaker capital and financial markets had meant that sometimes credit would not be available (Leff 1979 p. 46). This would mean that instead, this entrepreneur would have to convince not just the banker, but the government and society at large. Despite this, Schumpeter's approach to innovation now has universal applicability and remains in many ways unquestioned.

2.2.2   Innovation as a public good: Neoclassical and Neo-Schumpeterian theories (1950s – 1970s)

Scholars from different disciplines have invested efforts in studying ways in which innovation can be improved, enhanced, encouraged and diffused (Fagerberg 2009; Srinivas & Sutz 2008). Most of this work highlights the contribution of innovation to making countries wealthier, firms more competitive, and markets more profitable. Innovation has been mostly observed as a catalyst for economic growth (Gitau et al. 2010; Kesidou & Romijn 2008; Williams & Woodson 2012).

Howells (2005) explains that there are two perspectives that explicate the link between innovation and economic growth: the first view is termed "old" neoclassical theory of growth; and the second is neo-Schumpeterian interpretations of economic growth.

Around the 1950s, Robert Solow proposed the "neoclassical growth theory", which outlined how a steady economic rate was possible if the right amount of capital, technology and labour was produced. In this respect, Solow presented both empirical and analytical work to understand 'steady-state' configurations (Solow 1999). Steady-states are countries where aggregate output and capital are growing at the same rate as employment and the standard of living is stationary. In that respect, what Solow argued was that growth happens when exogenous technological progress is present.

The neoclassical approaches to innovation and growth emphasised that knowledge and technology were exogenous sources of the economy, and instead focused on the determination of goods, outputs, and income distributions in markets through supply and demand. In this respect,

technological progress would follow a similar path in all countries and regions (Howells 2005; Mankiw et al. 1992).

Furthermore, this theory was based on the idea that technology was a public good that should be freely available to everybody anywhere, thereby expecting a form of worldwide economic equilibrium (Fagerberg, Srholec, & Verspagen 2010 p. 836). This projected an optimistic scenario where if technology or knowledge was available in one country, then that particular technology was eventually going to be available everywhere else in the world. All countries would then follow a similar path towards long-term equilibrium, in a process of 'convergence' between rich and poor countries.

However, around the 1970s, it became evident that there was something missing from the analysis and, in fact, a process of divergence was more factually accurate. Around that time, scholars started developing a neo-Schumpeterian view of innovation and growth. This view differed in that innovation and entrepreneurship were at the heart of economic growth, and this placed competition between firms and countries at a different level. From this view, not all countries or regions would benefit from innovation and, therefore, growth (Howells 2005). Instead, some countries would adopt imitation strategies and would then experience lower growth rates than countries where innovation did happen, resulting in exponentially differing growth rates between countries and regions (Verspagen 1997).

By contrast, Torstein Veblen, in his study of Germany's economic growth process, argued that technological changes had altered the conditions for industrialisation in some economies. This new type of knowledge that came with new technologies was not part of the industrialisation process of other societies like the UK. As such, he saw a process of 'catching up' that implied adopting the new technologies without having to share the costs of developing them (Fagerberg et al. 2010). The process of catch-up was defined as "a country's greater opportunity to advance by borrowing and adapting the best practice technology and organisation of more productive economies" (Abramovitz & David 1994 p.87).

Later, the previously mentioned 'old' neoclassical theory of growth adopted this idea and suggested that the knowledge necessary for technology and innovation that was a public good, supposedly benefitting everyone, was not easily transferable. This view, known as the 'new' neoclassical theory of growth, recognised the efforts needed for a catch-up process and looked into these further.

This started raising discussions around the differences between countries, why some were at the technological forefront and others were 'lagging' behind (Fagerberg et al. 2010). The main notion was that there are significant challenges for the backward countries catching up, and as such, these countries needed to develop 'institutional instruments' for overcoming the obstacles that impeded technology being adopted and adapted (Gerschenkron 1962). These 'institutional instruments' – that were subsequently labelled as 'capabilities' in the literature – were part of an important step towards the role of public and private actors in the catch-up process of the technologically lagging countries (Fagerberg et al. 2010).

This catch-up process has been studied in the case of Japan (Johnson 1982) and Korea (Kim 1980) to understand what existing 'capabilities' in these countries enabled the catch-up process to occur. The relative success in these countries led to new ideas for the application of innovation in low-income countries. In these cases, a combination of imitation and innovation was expected as part of the catch-up process (Fagerberg et al. 2010). As such, the laggard countries in Western Europe and Japan, for instance, presented limited capabilities that prevented them from reaching the USA (Abramovitz & David 1994).

2.2.3   The Sussex Manifesto (1980s – 1990s)

From Schumpeter's definition to the neoclassical and neo-Schumpeterian approaches, the vast majority of research on innovation has predominantly focused on high-income countries, while those classified as developing countries have yet to be considered as "hot bed[s] of innovation" (Ray & Ray 2010). In fact, until the 70s, the global setting of production systems was mainly characterised by a supply-driven mechanism, resulting in relatively standardised products for predominantly homogeneous markets. This meant that innovation processes were mainly coming from 'developed' countries, with little innovation coming from 'developing' countries. In these contexts, innovation and technology transfer was seen as a process of big pushes, driven forward by R&D (research and development) in the S&T (science and technology) sector (Kaplinsky et al. 2010). This mainly meant that 'developing' countries were treated as "simply non-innovating economies" (Kara & Pamukçu 2011). In contrast, the 'developed' countries were the reference for what was an innovating economy.

Simultaneously, the Sussex Manifesto was published as an advisory document for UN policy. This document identified the importance of S&T in raising economy-wide productivity and output. Moreover, it concentrated on R&D in research and technology organisations as the major source of innovation. In order to overcome the limiting situation in low-income countries, the

Sussex Manifesto recommended that the so-called developing countries raised their R&D expenditure with the help of the 'developed' countries in the form of aid provision and orientating their own R&D to meeting the needs of developing countries (Kaplinsky et al. 2010).

Meanwhile, during this period Friedrich Schumacher proposed an alternative framework in which growth, poverty reduction and distribution in low-income economies could be considerably enhanced if producers had access to labour-intensive and small-scale technologies. Schumacher argued that innovation had become an activity that went against human interests given how environmentally destructive it was. Furthermore, Schumacher also thought that most innovation and technology came from high-income countries, creating disparities and disruption when trying to apply them to low-income countries. As such, what he proposed was for low-income economies to produce low cost products, accessible for low-income consumers (Kaplinsky 2011). This framework was proposed as an Intermediate Technology Development Group (ITDG) in 1964[10], and became more popularly known as the Appropriate Technology movement. In this respect, this part of history represents a starting point for reactions to Schumpeter's definition of innovation as technology-push, top-down initiatives for more demand-pull, bottom-up solutions for the world's problems.

Despite both efforts (increase in commitments to R&D and Schumacher's framework), the development of innovation in many 'developing' countries has been poor (Kaplinsky et al. 2010). It is argued that lack of 'entrepreneurship' and capabilities required for innovation in low-income countries led to the situation. A conceptual framework published by the World Bank in 2004 compared this innovating capacity between developing and developed/OECD countries and stated:

> "While there is considerable experience accumulated in the field of innovation policy in developed/OECD countries, much of this is not directly applicable to developing countries because of the nature of the challenges the latter are facing. In fact, developing countries face genuine obstacles to innovation and this is precisely why they remain underdeveloped."(Aubert 2004 p. 6)

Among the reasons why innovation is not happening in the developing countries were inappropriate business, governance climates and insufficient education. As such, it was concluded

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[10] Subsequently transformed into Practical Action (www.PracticalAction.org).

that these countries needed to solve these issues while at the same time develop policies that supported innovation. But instead of developing policies that fitted these criteria, what was proposed was to fit similar policies from the ones created in the developed/OECD countries to fit the developing ones, with the hope that the structural issues would be fixed simultaneously. These, in many ways, came with top-down policy interventions from the Washington Consensus, which failed to engage with locally owned innovation, thereby exacerbating the already existing inequalities between the North and the South (George et al. 2012).

Soon after this, major structural changes in processes of S&T investment transformed trends in innovation in various global settings (Kaplinsky et al. 2010). This was due to the role played by an innovation surge in the Asian Driver economies (China and India especially). From this, new emphasis was made on unleashing creativity and developing innovations through the promotion of the localised entrepreneurship (George et al. 2012). As Cooke and Memedovic's 2003 report states:

> "There is a growing awareness among regional authorities that the economic growth and competitiveness of their regions depend largely on the capacity of indigenous firms to innovate. Offering the appropriate support to indigenous firms to become more competitive through innovation is a rising star on the regional policy agenda" (Cook & Memedovic 2003 p. 8).

Overall, academics, development practitioners and policy-makers have struggled with understanding how to conceptualise innovation in developing countries (Chaminade et al. 2010). There have been many attempts to measure innovation in countries in the Global North and the Global South.

By doing this, there has been an unquestionable assumption that "the innovative capacity of a place dictates its economic fate" (Blake & Hanson 2005 p. 681). This broad consensus on the desirability of innovation for the economy dominates both theory and practice of innovation for development (Bunnell & Coe 2001 p. 569). I will now introduce specific models/concepts that have been widely applied to innovation in 'developing' countries.

2.2.4 Innovation Models and Concepts

Where innovation in the 'developing countries' is concerned, what is evident are diverse streams with different theoretical underpinnings. I summarise three main concepts that have been used to study innovation in the Global South: I start by presenting an overview of how innovation has been seen as coming from institutional support, which includes the National Systems of Innovation (NSI). I then present a more specific stream that looks at innovation as technology diffusion and acceptance, which has been widely developed in the Information Systems (IS) literature, and include the Diffusion of Innovation (DoI) and the Technology Acceptance Model (TAM).

In each section I intend to show how some of these concepts, although very different in their approaches and formats, inherently hold the understanding that innovation is a necessary step for economic development, which is in many ways equated to a vision of development.

National Systems of Innovation (NSI)

In January 2009, the OECD held an expert meeting titled 'Innovating out of Poverty'. Several issues were discussed in this meeting, including the use of ICTs in Africa for information transfer, the role of women in micro-finance initiatives, and the "[…] need for bold leadership by developing country leaders, including heads of state, supported by developed countries, to move subsistence agriculture to a knowledge-intensive sector" (Kraemer-Mbula et al. 2010 p. 16).

Around the same time and as part of the same effort to promote innovation in 'developing countries', the Swedish International Development Co-operation Agency (SIDA) created the UNESCO Chair on Research Management and Innovation Systems. This then started a focus on strengthening institutional capacity within the innovation for development agenda. The innovation systems theory became one of the most important approaches to this phenomenon. The OECD also supported this approach arguing that it provided a holistic view of how innovation takes place (Kraemer-Mbula & Wamae 2010, p. 31).

The National System of Innovation (NSI) approach (Freeman 1995; Lundvall 1992; Lundvall 2007) was developed in the mid-1980s. It includes various strands of research with diverse theoretical underpinnings and empirical foci of innovation (Bunnel & Coe 2001; Niosi & Bellon 1994). Even though there is no agreement on the definition, the OECD reviewed all existing

definitions and explained that the concept of NSI "[…] rests on the premise that understanding the linkages among the actors involved in innovation is key to improving technology performance" (OECD 1997 p. 9).

At the core of the concept is the recognition that linear models, which rely on the existence of stages of innovation (invention, etc) are limited. Instead, this perspective considers innovation as a more holistic process rather than the result of a prescriptive set of steps. A review of this family of concepts usually includes the work by three key scholars: Christopher Freeman, Richard Nelson and Bengt-Ake Lundvall. Although from different theoretical perspectives, they have contributed to the development of a concept which helps asses how innovation takes place in a particular nation or region.

The main idea behind the NSI concept is related to the work associated with the different institutions[11] that intervene in a learning process. In this sense, countries structurally differ in the way they conduct technical change, both at the level of their socio-economic institutions, and at the level of public policy for promoting innovation. This affects different aspects, including industrial and technological policy, universities, and public laboratories, constituting a National System of Innovation.

Therefore, from its inception innovation systems has been considered a relevant phenomenon for a country's development, as the key framework for analysing technological change and primarily manufacturing and industrial activities (Kraemer-Mbula & Wamae 2010). This has been perceived as relevant for a country's innovative capacity, essentially for the long-term economic development of a nation (Intarakumnerd et al. 2002).

Some authors have adopted the NSI framework developed in the Global North, to see how it can be applied to countries in the Global South. Although the application of NSI to the Global South has been largely underdeveloped (Fagerberg et al. 2010), the literature has some important studies.

In his highly renowned 1985 book on Product Innovation and User-Product Interaction, Lundvall presents an argument that has remained relevant throughout the years: ''if the cultural environment of a user is very different from that of the producer, it will be costly to establish a channel of information and to develop common codes. Not only will different national languages

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[11] These may include universities, specialised research organisations, science-based industries and other professional units engaged in the process of production.

impair the communications, differences in culture will be reflected in different interpretations of identical signals'' (Lundvall 1985 p.47). This spoke of a context-sensitive concept and approach.

However, years later Lundvall (2007) recommended that, when applied to the South, the concept of NSI should change its focus to a "catching up" paradigm and, as such, should look at building a system and promoting it. He explains that "borrowing" and adapting technologies, as well as inviting foreign firms and experts are things that need to be considered for building strong NSI (p. 112).

Furthermore, Lundvall also considers that NSI are important because it is believed to expand learning and knowledge capacities in the Global South. For him, concepts like "information divides", or "digital divide", focus on the wrong issues. They should in fact focus on the enhancing opportunities for agents to engage in learning and competence building, what he terms as the 'learning divide'.

In a similar line, Mike Freeman grounds his work on organisational and institutional analysis, and relies on empirical data from the economic 'miracle' of Japan which emerged as an innovative leader in the '80s and '90s. During his work, Freeman attempts to understand how Japan's production structures drove the emergence of the country as an innovation leader (Freeman 1995, Freeman 1987). Furthermore, Freeman also argues that innovation emerged not necessarily from focusing exclusively in the economy, but also in how other sectors involved in the process (i.e. education, research, government). The interconnections of such dimensions were crucial in the development of innovation in Japan (Foster 2014).

Other authors have adapted the NSI to fit other contexts in the Global South (in this body of literature it is labeled as 'developing countries'). Arocena & Sutz (2000) share insights of NSIs from a Latin American perspective and state that the NSI presented a normative agenda that highlighted the need to drive policy efforts towards change and that for the Latin American countries this represented a challenge given that science, technology and innovation do not occupy high positions in the political agendas. As such, the concept of NSI is presented as an *ex-ante* concept, in the sense that very few patterns of the socio-economic behaviour regarding innovation at national level can be viewed as working in a system-like manner" (p. 58).

Furthermore, the authors explain that most 'developing' countries in Latin America focus efforts on the agricultural sector, failing to recognise the difficulties of transferring industrial technology and innovation (Bell & Pavitt 1993). This is due to the fact that technological innovation "[…] has been undervalued by dominant cultural patterns, scarcely studied by mainstream development

economists, and almost ignored by public policies […]" (Arocena & Sutz 2000 p. 62). More generally, knowledge has not been considered an important factor of economic growth in this region. As such, industrial innovation in Latin America remains highly informal.

With this, Arocena and Sutz (2000) explain that although developed on empirical work from industrialised countries, the concept of NSI can be applied to the Latin American context, but with a southern perspective. They argue that innovation from the South "(…) can be envisaged as a research programme, strongly connected with the rethinking of development problems in the age of globalization, having as a research agenda a 'broad spectrum' of general and specific questions, and with a research methodology of its own to be able to tackle such an agenda" (p. 56).

Although it is framed with a southern perspective, the NSI concept proposed speaks of one way for a country to enhance innovation.

Cassiolato et al. (2003) studied national and local systems of innovation in Brazil in the 1990s and described NSI as positive for helping micro, small and medium enterprises – the main actors for promoting local development – get over the growth barriers. Furthermore, the authors explain that due to efforts to develop NSI there is an increase in learning capacity of businesses. However, the majority of businesses focus on improving their production processes, but not on developing new products altogether. This was due to the lack of integration, instability and vulnerability of the macroeconomic environment. In addition, the political, institutional and financial environment forced businesses to focus on improving their already existing products, rather than creating new ones. The lack of innovative efforts affected the level of employment of specialised personnel, affecting the business core capabilities. Cassiolato et al.'s (2003) findings reflect the need for NSI in Brazil for strengthening the innovation capacity with a consideration of the macro-context. To the authors this implied the implementation of more sophisticated forms of promoting industrial and technological development.

These studies speak of the challenges of applying NSI to 'developing countries', given the strong link that the concept has with the context in which it was envisaged. Innovation in less developed countries seems to be characterised by isolated initiatives, making it difficult to articulate and aggregate into what could potentially become an NSI (Arocena & Sutz 2000).

Given these challenges, authors like Viotti (2002) propose that instead of focusing on NSI, 'developing' countries develop what he terms National Learning Systems (NLS). This stems from *his* argument that innovation is 'a phenomenon alien to late industrializing economies' (p. 653).

This means that the focus should be on learning in relation to diffusion and absorptive capacity rather than the active generation of new technology that is indigenous from that country. This view has been contested by Lundvall (2011) who argues that all NSI have learning processes at their core.

Other scholars have broadened the concept of NSI to fit it under the concept of inclusive innovation (explained later in this chapter). Foster & Heeks (2013), draw on the case of mobile handset supply in Kenya.

For the authors, systems of innovation have proven better than prior models at explaining the experiences of the 'developing' countries, by expanding the concept to include less formalized aspects more relevant to low-income countries, such as '[…] informal demand-side actors and intermediaries, and the role of localised and informal institutions.' (334).

However, despite these attempts to adapt the NSI concept so it has more relevance to the Global South, the literature is still contested and further research needs to be done. One of the main issues is that countries in this part of the world need to direct efforts towards developing an NSI because, in a globalised world, this constitutes progress. Whether it involves developing policy in relation to NSI or developing learning capacity for the absorption of foreign technologies. Lundvall (2007), states that "[I]n economic terms development depends on technical and organisational change brought about by continued processes of innovation" (p. 114). Innovation, then, brings technical and organisational knowledge that is conducive for economic growth.

In summary, there is limited evidence that shows the benefit of NSI in the Global South, because the assumed impact on economic growth has been proven unsuccessful many times due to weaker legal systems, informality, deficient infrastructure, weaker education systems and many other issues found in the literature (Altenburg 2009). Only a relatively small number of success stories are reported from the Global South where government action has been instrumental to strengthen knowledge-based activities, which are fundamental for NSI (ibid). The most important one is perhaps the work done by Freeman.

For a NSI to work, there needs to be a system in place: actors with potential to work together, institutional and political support to S&T. If these factors are not available in a country, then the NSI will be described as weak and limited. Or it will be proposed as a learning system that focuses on absorption of foreign technology, and as such speaks of catch-up.

This is not to say that the concept does not present more nuanced perspectives. Some scholars have developed arguments that do not propose a blueprint that stems from the North to the South.

There are some scholars that speak of the embeddednes of the system's approach rather than the blueprint perspective. For instance, the work by Nelson, who relied in an evolutionary perspective, implies that innovation is dependent on norms and behaviours in which innovators are embedded (Foster 2014). Nelson relies on empirical evidence from the US and the UK; however, theoretically he is not necessarily proposing an ex-ante concept.

In this thesis, I pay close attention to concepts like NSI adopted in the South because I consider it may enhance aforementioned ideas of catching-up and modernisation. Although as has been presented here, there are a wide set of arguments, and propositions – highlighting how contested this concept is—there are a number of concerns that have implications. For instance, a possible failure or a weak NSI in a country in the Global South can be perceived as resistance to development. This speaks of the need to adopt a more critical view of innovation in the Global South: instead of framing it from frameworks developed in other contexts, to consider how innovation is taking shape in the socio-historical contexts, by looking at what people are doing and the context in which they are embedded. This idea will be developed later on.

Diffusion of Innovation (DoI)

A dominant thread of literature on innovation is the theory of Diffusion of Innovation (DoI), which explains how innovation can be communicated over time among members of a social system. This theory has been developing since the 1960s, mainly by the work of Everett Rogers. In his theory of Diffusion of Innovations, Rogers (1995) explains an *innovation* is *communicated* through certain channels over *time* among the members of a *social system*. Rogers explains that innovations are evaluated by people not on the basis of scientific research, but through peers who have already adopted the innovation, expressing a degree of subjectivity. Furthermore, Rogers explains that a social system represents the setting in which the diffusion takes place. He elaborates:

> "[…] The social structure of the system affects the innovation's diffusion in several ways. The social system constitutes a boundary within which an innovation diffuses. Here we deal with how the system's social structure affects diffusion, the effect of norms on diffusion, the roles of opinion leaders and change agents, types of innovation-decisions,

and the consequences of innovation. These issues involve relationships between the social system and the diffusion process that occurs within it." (Rogers 1995 p. 24)

According to Rogers, the social structure can either facilitate or impede the diffusion of an innovation. He argues that norms within each social system can define what sort of behaviour is expected from people, and therefore can in some cases constitute barriers to change.

He then proposes a series of models to further understand the innovation-decision process, i.e. which are the necessary steps an individual would take to evaluate a new idea and decide whether or not to incorporate it into practice. This process includes five stages: knowledge, persuasion, decision, implementation and confirmation (Rogers 1995).

The diffusion model is relevant to studies of innovation; however, certain aspects of the model have presented methodological limitations, noticeably when different flows of information alter the innovation cycle (Agarwal & Prasad 1998). This presents a degree of fixed, predictive understanding of innovation in Rogers' work that seems to ignore the fact that these stages may not all happen, or may happen in different orders. From this model, the diffusion seems to be almost automatic and mechanical and does not consider the social dynamics of how and why an innovation is actually adopted. Furthermore, it also assumes that innovation follows a set of prescriptive and compulsory steps that are inevitably linked in a causal manner, for instance going from research to development (Akrich et al. 2002). When instead, it is argued that innovation "[…] by definition is created by instability, by unpredictability which no method, however refined, will manage to master entirely" (ibid p. 195).

This is one of the reasons why the DoI has been criticised thoroughly.

For example, computer and information systems scientists and scholars from organisational studies have argued that this approach contains a number of limitations because the complexity of innovations cannot be explained only by their diffusion (Maman 2012; Alcouffe et al. 2008; Bergström & Dobers 2000). These scholars suggest that new solutions or innovations are the result of a complex social construction which can be adopted or can be diffused within unpredictable channels or sometimes not be adopted or diffused at all.

Nonetheless, a vast number of studies have used these stages and have applied several models, including S-curves, to try to elucidate phenomena. Moreover, a great number of studies have applied the DoI to understand how technological innovations are diffused and adopted in the

Global South, to explain the positive impact that these innovations have in a country's development.

DoI has been applied, for instance, to understand and explore how electronic commerce was adopted and used by an NGO in the Kingdom of Jordan (Al-Qirim 2007). The author applied Rogers' innovation diffusion sequence to understand which factors enabled the e-commerce adoption of the project, and found that the role of the government was crucial for both the diffusion and adoption of the innovation. DoI has also been applied to understand the political, structural and historical conditions that shaped the adoption of telecommunication reform strategies in Malaysia and the Philippines, by applying the Rogers' 2003 S-Curve growth model that helps explain the different diffusion trajectories of technological innovation (Wong et al. 2016).

Even though the theory was not developed to understand the impact of an innovation in economic growth, Rogers did reflect on whether innovation should have an impact in socioeconomic development and equality. His research suggests that socioeconomic status has an effect on the degree of change and consequently the degree of innovativeness. In this respect, his recognition of the impact on development goes as far as explaining that whichever innovation is in question, the socioeconomic status of an individual or an organisation will impact whether this will be taken or not:

> "[…] For example, whether a new agricultural machine like the tomato-harvester in California is produced as a four-row, a six-row, or as an eight-row model has an important influence on whether larger or smaller farmers will purchase it. The larger, more expensive machines will be less affordable by smaller farmers." (Rogers 1995 p. 152)

Rogers' model was mainly framed using examples from 'developed' countries and used to explain change, not development. But why has the DoI theory been so popular in studies looking at innovation in the Global South? One reason may be that there is a need to believe that innovations are bringing about social change that is positive, helping people in these parts of the world progress, and fixing the vast amount of problems they have. The theory of DoI presents a very simple way to explain why something was adopted, with very little space for looking at the critical (and perhaps detrimental) part of introducing an innovation. Underlying in this body of

work then is the idea that innovation leads to social progress. And as such, it is important to focus on diffusion in specific social systems, where norms can be enablers rather than constraints.

Scholars have challenged this and argued that a process of diffusion is not simply a matter of replicating existing initiatives, but is about looking at the heterogeneous network of technology, people and processes (Madon et al. 2009). In fact, some have argued that DoI applied in the Global South promotes an imperialist tradition of the West to other contexts, which is why in some cases failure of diffusion is perceived as resistance, "and thus innovation is portrayed as being ideologically superior" (Zheng 2015 p. 2).

In this section, I have introduced the theory of DoI to demonstrate how innovation, in the form of technology, has been discussed for its impact in development. I have described how the concept has been widely implemented despite its limitations, because of the need to promote innovation as positive for development. In this thesis, I critically evaluate concepts like DoI, because they speak of a conception of innovation for economic growth, without much consideration of other dimensions. This idea will be developed later on.

Technology Acceptance Model (TAM)

Following a similar logic is the body of work under the Technology Acceptance Model (TAM) (Davis et al. 1989). Davis' intention was to develop a model that "[…] is helpful not only for prediction but also for explanation, so that researchers and practitioners can identify why a particular system may be unacceptable, and pursue appropriate corrective steps" (Davis et al. 1989 p. 4). In this respect, TAM attempts to explain and predict how users come to accept and use a technology. According to TAM, the effects of external variables on intention to use depend on the perceived usefulness and perceived ease of use (Venkatesh & Davis 2000).

Studies applying this model seek to identify these aspects to explain or predict whether users will indeed use a particular technology. Given this, TAM has been widely applied to study technology impact in the Global South. For example, TAM has been used to understand how and why rural young entrepreneurs in Malaysia adopted and used ICTs like computers, proving that when there is a perceived enhancement to one's productivity and usefulness, young Malaysian entrepreneurs were likely to develop a positive use towards a technology (Zaremohzzabieh et al. 2016).

Other scholars have applied TAM to explore the reasons for low acceptance and usage of telecentres in rural India (Gollakota et al. 2012). These researchers showed that lack of awareness

of telecentres and their low cost, as well as lack of confidence in using technology, were key factors for low usage, once again proving the importance of looking at phenomena beyond the theoretical model or predictive curve.

TAM has been criticised due to its methodological and theoretical limitations and it has even been argued that despite the attempts to improve the model, it has reached saturation level (Chuttur 2009). The application of TAM to understand phenomena in the Global South has also been criticised because this model operates under the premise that the technology is already available, and that the acceptance or rejection of a technology depends on the end user perceived usefulness or perceived ease of use (Musa 2006). In an attempt to transform the model so it fits the situation in countries of the Global South, Musa (2006) combines Amartya Sen's Approach to Human Development with TAM, aligning the model with a vision of development as the expansion of freedoms. In this respect, Musa explains that the revised model "[…] captures the importance of the actual availability of technology and links this to perceptions of socioeconomic environment, which ultimately gets reflected in the value placed by individuals on ICTs to enhance their lives" (p. 218).

Furthermore, it has also been argued that the abundance of papers that replicate TAM suggest an implicit belief that an accumulation of knowledge is occurring (Bensabat & Barki 2000). This implies a strong influence of TAM on information systems research which has enabled concepts like perceived usefulness and perceived ease of use to be treated as 'black boxes' without any questioning of their relevance in the understanding of a system or phenomenon.

Behind this is an assumption that efforts need to be placed to see how poor countries can adopt and accept a technology due to its recognised positive impact. In one of the already mentioned studies, Musa (2006) writes:

> "This suggests that Africa, due to its predominantly low-income groups and the inaccessibility of such technologies by the masses (in spite of the existence of pockets of affluence in the region), is less likely to realize much of the potential benefits of modern technologies." (p. 221)

The need to ensure ways in which people in poorer countries can make the best of all the potentials that modern technologies can offer may be a reason why there is such a vast number of studies that have adopted the TAM, as well as the DoI theory. The argument remains the same:

innovation is key to economic growth and development (Mccormick 2011; Gitau et al. 2010). Hence, countries from the Global South would only but benefit from the design, implementation and diffusion of ICT innovations. The logical assumption is to promote technological innovation within this region.

With this review, the Classical framings of innovation for development section is complete. Overall, the review shows there are several ways in which innovation has been framed as a mechanism for development from a dimension of economic growth. These concepts, although providing theoretical guidance to interpret innovation, are mainly focusing on the impact it has in building national systems, diffusion and acceptance of technology. In most of these cases, if the required aspects for innovation fail, it is assumed that certain things about a particular context are failing, lagging behind. As already mentioned, even though there have been attempts to break this power geometry and develop these concepts from a *southern* perspective, there seems to be an assumption within these framings that "[…] developing countries face genuine obstacles to innovation and this is precisely why they remain underdeveloped" (Aubert 2004). Innovation then is mainly framed from Western experiences and values, and as such, innovation in other parts of the world is seen as a process of catch-up and modernisation.

Furthermore, innovation is also being partly framed for its impact in economic growth. As such, innovation hubs in the Global South are adopting aspects of catching-up and modernisation. This review has presented in detail how this has been part of the innovation for development literature so far.

The next sets of concepts go beyond aspects catching-up and modernisation and propose a more holistic view of innovation for development.

2.3 Inclusive Approaches to Innovation for Development

In this section, I begin by presenting a short summary of how the discourse started shifting from merely accommodating economic growth, to more nuanced/inclusive views of innovation for development.

2.3.1 Innovation and social inclusion

"Clearly, the contemporary concept of innovation has been constructed to refer to certain kinds of economic activity (largely those associated with certain kinds of technology) and to exclude other sorts of economic activity. Importantly, those economic sectors that are predominantly peopled by men in terms of ownership and employment are the ones that fall comfortably within these dominant definitions of innovation. Current understandings of innovation reflect, moreover, the concept's origins in and linkages to a particular historical context, namely that of the 20th-century industrial complex that characterises OECD countries." (Blake & Hanson 2005 p.682)

In more recent years there has been a clear recognition that the existing theories and approaches to innovation have been conceptualised in the developed, industrialised countries, and fitting them on other contexts is both challenging and misleading (George et al. 2012). Furthermore, the notion that top-down policy intervention has failed to deliver the promises of economic development in universal terms is also been discussed more recently. Top-down policy intervention has, in fact, enhanced the already existing inequalities (Cozzens 2008).

In the search to counterbalance this, a number of concepts around innovation and development started appearing, shifting away from innovation approaches that do not consider the poor in both the process and the outcome of innovation, aspects that are part of what development entails (Foster & Heeks 2013; Cozzens & Sutz 2014; Bryden et al. 2017).

This section presents concepts, which in my view are better suited to conceptualise the impact of innovation for development.

Debates around inclusive growth stemmed from the recognition that economic growth models had focused too much on increasing revenue without redistribution, thereby enhancing inequalities. The problem was identified as an issue of exclusion: innovations from scientific, technological sources were rarely focused on the needs of the poor (Kaplinsky 2010; Santiago 2014).

People in lower socioeconomic levels had not been considered relevant sources of innovation, as producers or consumers. By 2004, the Indian government had established 'inclusive growth' as a main objective (de Haan 2015). China had also been re-thinking its growth model given the inequalities faced by many citizens.

For some, these debates have been shaped by previous discussions around Schumacher's appropriate technology and alternative approach to innovation (Heeks, Amalia, Kintu, Shah 2013). Others considered it directly linked to the aftermath of the Arab Springs increased (de Haan 2015).

From these experiences, a language of inclusiveness started developing in global debates around international development. Other terms like 'inclusive development' were also developed to propose an alternative to the systemic inequality caused by an economic system that focused only on growth and not on distribution (The Commission on Growth and Development 2008).

By 2011, the International Development Research Centre (IDRC) had created a research program dedicated to innovation for inclusive development. Such program shortened the gap between innovation studies and development studies, and focused in aspects not researched previously, like innovation in informal settings (Santiago 2014)

2.3.2   Innovation Models and Concepts

In this stream I gather concepts that focus on innovation in the non-business sense of the term. This includes concepts like grassroots innovation; innovation at the Bottom of the Pyramid (BoP) (Pansera 2013); frugal innovation (Bhatti 2012; Zeschky et al. 2011); and inclusive innovation (Foster & Heeks 2013; George et al. 2012). While these concepts differ in their approach, they are able to demonstrate that even in most deprived environments innovation could be found, and organisations that wish to deploy innovations should overcome existing biases about the poor (London 2008). Furthermore, they represent 'inclusive' ways in which innovation is framed as a mechanism for development.

Grassroots innovation

Grassroots innovation has been defined as "bottom-up solutions for sustainable development; solutions that respond to the local situation and the interests and values of the communities involved" (Seyfang & Smith 2007 p. 585). In many occasions labelled as a movement, grassroots innovation holds value in being socially inclusive towards local communities (Smith et al. 2014). The concept has been applied in contrast to mainstream management and business definitions that look at social and environmental activities. For instance, it has been used to describe phenomena like new seed varieties and pesticides for farming in India (Bhaduri & Kumar 2011); and a

community of like-minded people called the Transition Towns movement in the UK (Seyfang & Haxeltine 2012).

This speaks of a very wide range of topics that can be considered as grassroots innovation. Furthermore, it also implies that grassroots innovations are not only a phenomenon happening in the Global South, but also the Global North.

Innovation at the Bottom of the Pyramid (BoP)

This concept also refers to innovation that happens at the grassroots, but it is different because it focuses on one specific group of people: those at the bottom of the pyramid (BoP).

The concept was developed to describe a specific socio-economic group (those earning less than $2.5 a day). It could be argued that people in that socioeconomic group have been innovating for centuries. It is included in this section because the operationalisation and application of such concept has been more recent phenomena. This follows Pansera (2014)'s work who makes similar categorisations in his study of innovation in BoP communities.

Innovation at the BoP gathers a number of studies that focus on below-the-radar innovations, with particular attention to innovations that seek to alleviate poverty (Pansera 2013). Prahalad introduced the concept of BoP in 2005 in his book *The fortune at the bottom of the pyramid: eradicating poverty through profits*. It was initially introduced to explain how the poor represented an unexploited market that had great purchasing potential (Prahalad 2006).

In that respect, innovations were conceived as products and processes that could be done with very little cost, for a vast number of people (Pansera 2013; Prahalad & Mashelkar 2010). Accordingly, the poor were targeted as new and unsaturated markets, demonstrating that seeking for profit and delivering social value could happen simultaneously (Pansera 2014). What stems from this initial definition and work is that the role of the multinational corporations was key for innovation at the BoP to succeed.

The concept has eventually evolved to recognise the role of poor people as consumers, and the importance of establishing alliances with local actors and institutions (London & Hart 2004). This body of work stems from the recognition that Prahalad's definition failed to look at the role of institutions in the process.

Studies applying this concept have explored the role of innovation in the informal economy (Dutz 2007); tourism as a mechanism for entrepreneurship and innovation (Hall et al. 2012); the role of

networks for the BoP (Reficco & Márquez 2012); the role of marketing for improving the access to the BoP (Bharti et al. 2014); and so on.

Frugal Innovation

Frugal innovation has been defined as the ability to "do better with less resources for more people" (Bhatti & Ventresca 2013 p. 4). It stems from the recognition that innovation is also a matter of redesigning products and processes to cut out costs, when it has normally been associated with high-intense technological investment (ibid).

Overall, the concept of frugal innovation operates within the notion of shared value and efficiency (Prabhu 2017). It is concerned with quantity and cost of a specific product and the resources needed to produce it. Consequently, given the low cost involved, it has been perceived as having low quality and limited functionality (Zeschky et al. 2011). Nonetheless, frugal innovation is also presented as a mechanism of empowerment of low-income populations (Kahle et al. 2013).

Some scholars present broader definitions of frugal innovation. George et al. (2012), for instance, define frugal innovation as "innovative, low-cost and high-quality products and business models originating in developing countries and exportable to other developing countries or even the developed world" (p. 1). From this perspective, frugal innovation holds universal value and has actually been occurring even before the term was coined (Bhatti & Ventresca 2013). Frugal innovation has been used to study how an Indian mobile phone service provider was able to build a business model based on already existing networks without investing too much (Prahalad & Mashelkar, 2010). It has also been applied to look at how Western corporations rethink their established business models to adopt frugal innovations, with the understanding that it will increasingly attract more consumers (Zeschky et al. 2011).

Overall, the literature presents optimistic interpretations of frugal innovation and argues that it is a desired phenomenon by firms who will engage in cost reduction, profit and sales increase (Prabhu 2017). In this sense, it is similar to innovation at the BoP in that it seeks to incorporate poor people and e private sector in a search for profit maximisation and simultaneous social impact (Kahle et al. 2013).

Inclusive Innovation

The language of 'inclusiveness' has emerged as an approach concerned with the reduction of the inequalities largely neglected by previous drives for development (i.e. inclusive growth, inclusive development, etc.). Inclusive innovation (Altenburg 2009; Heeks et al. 2014; Nijhof et al. 2002) is one of the concepts that has been developed, framing research and political agendas.

Inclusive innovation has been defined in a number of ways. Even though there have been attempts to more succinctly define and study inclusive innovation, the topic is still relatively under researched and under conceptualised (Foster & Heeks 2013). In the context of European Union (EU) regional policy, Guth (2005) defines inclusive innovation as a mechanism to overcome the innovation gap and polarisation that can be caused (in the form of job loss) due to innovation. It includes the concepts of learning, trust, social capital and social cohesion as factors that should be taken into account to undermine the negative impacts of innovation at the regional level. Inclusive innovation, then, constitutes a way to reduce inequalities (Bryden et al. 2017).

More recently, George et al. (2012) have defined inclusive innovation in the context of inclusive growth. For the authors, inclusive innovation refers to "the development and implementation of new ideas which aspire to create opportunities that enhance social and economic wellbeing for disenfranchised members of society" (p. 663). Foster and Heeks (2013) define inclusive innovation as "[…] the inclusion within some aspect of innovation of groups who are currently marginalized" (p. 335). As visible in Figure 1, these authors propose a multi-level approach by stating different aspects of inclusivity: intentions, consumption practices, impacts on the poor, participation in the process and structural characteristics of innovation context. A study of inclusive innovation then falls within some of these aspects or in all.

For Cozzens & Sutz (2012 p.12) "innovation needs to be 'inclusive' in at least two ways: inclusive in terms of the process by which it is achieved and inclusive in terms of the problems and the solutions it is related to". Bryden et al. (2017) present a more practical definition. Inclusive innovation should include those new ways of doing things – including technologies and institutions – that may improve the most needy's lives. In the search to counterbalance this, the concept of inclusive innovation has been developed to shift away from innovation approaches that do not consider the poor in both the process and the outcome of innovation, aspects that are

part of what development entails (Foster & Heeks 2013; Cozzens & Sutz 2014; Bryden et al. 2017).
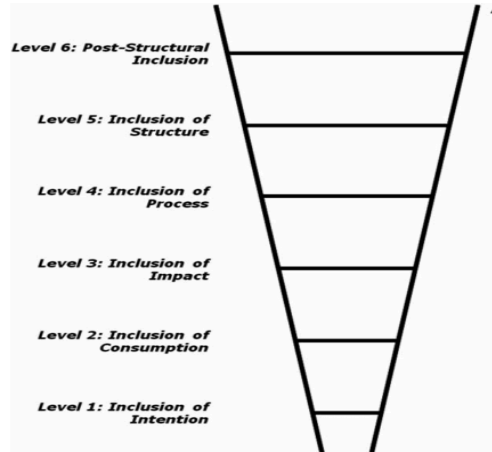
Figure 1: Ladder if inclusive innovation (Heeks, Foster & Nugroho 2014).

These different definitions and conceptualisations usually include looking at who benefits and is involved in the innovation process and the outcome (Chataway et al. 2014). It also presents a way of linking issues of sustainability — normally associated with environmental aspects — with the consideration of people and places that have often been neglected in mainstream innovation literature (Bryden et al. 2017).

Inclusive innovation has been operationalised to include poor people in the development of a 'participatory' innovative agricultural project (Swaans et al. 2014); to adapt grassroots innovation movements to science, technology and innovation (STI) institutions and development agencies (Fressoli et al. 2014); to develop grounded innovation platforms (GRIPs) for a forest-based bioenergy in Norway en (Refsgaard et al. 2017); and so on.

2.4 Linking Development and Innovation

As mentioned previously, the ways in which innovation has been studied as a mechanism for development hold an underlying view of development that is explicitly or implicitly expressed. Table 2 presents the views of development framings presented in this review.

From this review, we can see that the Classical framings of innovation are proposed as a 'catch-up' process that compares the so-called developed countries with the developing ones. This equates development as a process of modernisation of these 'laggard' countries.

In this regard, when innovation is framed as NSI, there is an assumption of applying the same lenses and concepts that speak of modernisation theory. In this respect, studies usually argue the need to improve structures and institutions in the developing countries so that they fit the NSI in the developed countries, speaking of a process of 'modernising' these countries. This particular situation may lead to geographically fragmented markets and very costly situations, which may affect an innovation process greatly (Ray & Ray 2010). Successful innovation in the Global South should assume significant change to be explained through the same lenses used to explain a successful innovation in the Global North (Lorentzen & Mohamen 2009; Mytelka 2000; Williams & Woodson 2012).

Concepts like DoI and TAM show aspects of development as economic growth. The need to find ways for innovation to be diffused and adopted in developing countries, without much consideration of the structures and contexts, speaks of the need to enhance innovation for innovation's sake. What is derived from this is the acknowledged (and mostly uncontested) understanding that innovation is relevant for economic growth (OECD 2012). Every stage of an innovation process is then shaped by this view. Whether it involves the generation; the diffusion or the impact of an innovation, it is mainly seen in terms of economic growth.

Furthermore, when concepts like NSI are proposed as opening markets and focusing on trade, this presents aspects of neoliberalism.

These framings, when proposed as a way to include people in the market systems, have underlying aspects of social inclusion and inclusive development. However, in some instances, innovation is framed as a way to incorporate the poor into the market, thereby increasing revenue. This presents aspects of neoliberalism.

Table 1: Framings of innovation and approaches to development (Source: Author).

Framings of Innovation for Development			
Dimension/focus	**Concepts and theories**	**What is evaluated**	**Development views and approaches to development**
Innovation from institutional support	National Systems Innovation (NSI)	Innovation strategies, structural and institutional barriers. Innovation policies, competition policies, trade policies.	Modernisation theory and economic growth
Innovation as technological change	Diffusion of Innovation (DoI) Technology Acceptance Model (TAM)	Knowledge, learning ability, human resources.	Economic growth, modernisation and neoliberalisation
Innovation as the inclusion of people.	Grasroots innovation Inclusive innovation.	Quotas of people.	Inclusive growth, social inclusion.
Innovation from the poor.	Innovation at the Bottom of the Pyramid (BoP).	Products, patents, markets.	Neoliberalisation.

2.5 The Invisibility of People in Innovation for Development

The review sheds light on the way in which innovation has been framed as a mechanism for development and progress. This categorisation is not intended to provide a fixed reference from

which to make distinctions. Its purpose is simply to provide a way of framing, describing and identifying gaps in a body of literature that is somewhat fragmented. As such, it is very possible that other scholars consider concepts or models should be included in the review. However, I have only focused on the mainstream ones. These interpretations would be well suited with proper justification, like the one I have tried to propose here.

Although these framings have for years shed light on our understanding of innovation, they have also raised certain concerns. For instance, they have translated the dichotomy of developing and developed economies to one of innovating and not innovating countries. In this sense, the 'not innovating' countries have had to undertake a number of actions to adopt strategies leading to the similar innovation happening in the 'innovating' countries. This speaks of a catch-up process: to adopt the NSI concept and apply it to the South, with the hope that it will have the same effect as it had in the North. More specifically, to diffuse technology developed in the North so that it has similar effects in the populations of the South, etc.

These concepts have also largely ignored the wider structures and institutional arrangements that the so-called 'not innovating' countries have. The main goal is to reach the same economic output that was achieved in the more industrialised economies, and as such, aspects of structures are seen as variables that either enable or prevent such innovation. In this respect, innovation is valued mainly for its effect in economic growth. There is almost never a discussion about the effect of innovation in other dimensions.

In this sense, these models and concepts are relevant for our understanding of innovation for development, they are missing wider societal and structural aspects that affect countries in the Global South, resembling a catch-up process. This is due to the fact that innovation is seen as mainly leading to economic growth.

Framings that are more contemporary step away from this view and propose innovation to be studied as a process of social inclusion. These include grassroots innovation, innovation at the BoP, frugal innovation and inclusive innovation. These concepts are significant because they step away from equating innovation with economic growth, but they still raise some concerns. From concepts like frugal innovation and innovation at the BoP, what is visible is that innovation can be found where it was not expected, namely the Global South. More specifically, innovation can also be an aspect that is either consumed or produced by the poor. Both these aspects operate still under a similar line of innovation for economic growth. The poor are now part of the discussion, yet they are still operating under a market system: people are seen in terms of their economic

capacity and innovation is seen as change in their economic capacity. Moreover, innovation is encouraged because it is perceived as potentially creating new markets or increasing revenues. From this perspective, the search for profit can simultaneously go with social impact.

Table 2 presents a summary of these framings, the concepts that have been mentioned and what aspects work as 'indicators' of whether innovation is taking place. As mentioned previously, this is by no means an exhaustive or fixed table. It is intended to serve as a visualisation exercise to have an overview of ways in which innovation has been measured in development. This is a key part of this study's argument because depending on what concept of development is adopted, the role of innovation will be presented differently.

The common trend from all these concepts seems to be a strong focus on economic factors that bring about what is labelled as development (Bunnell and Coe 2001 p. 569), summarised in figure 2. What is not explicitly clear is, however, an explanation of what kind of development it is trying to achieve. The first layer allows us to conclude that the focus is on development as economic growth, but a further review of development theories can lead us to interesting nuances. Equating economic growth with development is a leapfrog that, for years, has proved problematic. Why is it then that various scholars and practitioners continue advancing framings of innovation for its impact in the economy and not other dimensions?

Figure 2: Current framework of innovation for development.
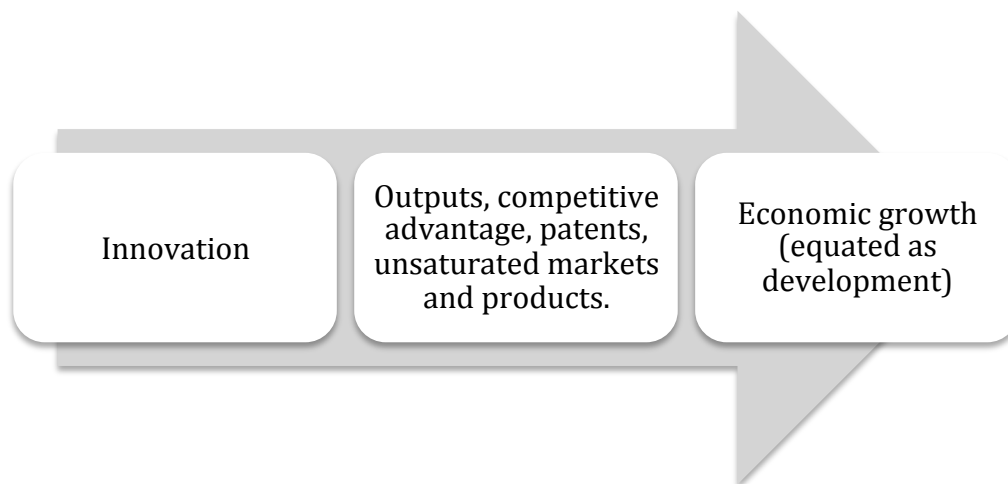
There is a recurrent point that is derived from this framing: the role of innovation in catalysing economic development is major (McCormick 2011; Gitau et al. 2010; Kesidou & Romijn 2008;

Williams and Woodson 2012). Most of the literature frames innovation as a major enhancer of economic growth and competitiveness (Dhanasai & Parkhe 2006; Sabir & Sabir 2009).

Although I would agree that there is a great potential to look at innovation from its effect in economic growth, I am concerned about two specific aspects.

The first one is that this approach facilitates the risk of replicating organisational structures from rich, developed countries, given the proof of its existing success. This has already been proven to not work and to enhance inequalities instead. At the core of this assumption is that the intense attention paid to the effect of innovation on economic growth has eclipsed other dimensions of development. Innovation could have an impact on other types of developmental outcomes, for instance the cultivation of knowledge networks, enhancement of human capital, or wellbeing (Engelbrecht 2014). For all these, the literature presents very little research, demonstrating these aspects are not a priority. This research will address this gap in the existing literature by analysing the non-economic contributions to development attributable to innovation hubs.

Therefore, the literature has infrequently touched upon the fact that innovation may, for instance, promote economic growth, but increment social exclusion. Or it may not promote economic growth but it may improve other aspects of social life. For these reasons, more research is needed to carefully examine what effect innovation has on people. This implies a focus on individuals and how innovation enables the outcomes that they find valuable.

The second concern is in relation to the framings, which focus on the inclusive aspects of innovation for development. These concepts do not exclusively frame development from an economic growth perspective. They focus on how innovation is actually being developed in the Global South, stepping away from a catching-up process or imitation model.

From these framings, we can derive that development is seen in terms of including people to the mainstream. Innovation is evaluated in its relevance to the excluded, on whether the excluded are involved in the development of innovation, whether the excluded are able to adopt innovations and whether innovation has a beneficial effect in the livelihoods of those excluded. Compared to mainstream innovation literature, this stream of literature is inspiring in that it pays more attention to the *who* question, i.e. who innovates or who benefits from the innovation.

However, what stems from this literature is that even though innovation is framed more inclusively, and arguably not narrowly focused on economic growth, it is still operating within a market-based system. People involved in innovation are still perceived based on their economic

capacity, and the impact of innovation on development is still focused on increasing a person's ability to increase their profit.

These concerns, the narrow focus on economic growth and the resistance to operate within a market-based perspective, lead to what Alsos et al. (2013) refer to as the '*invisibility of people*' in innovation for development. This term is echoed by gender scholars Agnette Alsos, Elisabet Ljunggren, and Ulla Hytti who in 2013 wrote an article to explain how gender has remained invisible in innovation literature. In this article the authors state:

> "One of the reasons for the lack of studies taking a gender perspective to innovation, compared to for instance the increasing number of studies on entrepreneurship and gender, is the apparent invisibility of 'people' in innovation. While entrepreneurs are in the limelight in entrepreneurship research, the role of the innovator is under-communicated in innovation research (Bränback et al., 2012)." (as cited by Alsos et al. 2013 p.237)

I borrow this concept and adopt it to explain that the innovation for development is lacking a human perspective. The discussions around innovation for development have been neglecting the impact that innovation can have on people. It is more focused on systems, products and processes, without necessarily seeing how these affect those involved. In this respect, people are invisible in the conversation. By making people more visible, what can result is that we see other dimensions where innovation may have an effect. For instance, we may in fact see that innovation fails to have an effect on the economy, but has an effect on a person's life. This thesis will address the deficit of studies taking a human perspective on innovation and will use three theoretical perspectives to make visible people and the meaning that they make of their involvement in innovation hubs.

A human perspective involves focusing on the *performativity* of innovation for development, that is, how the phenomena is dynamically produced and enacted through day-to-day practices. Performativity has been developed in a number of disciplines such as STI, ANT and gender studies. From this perspective, language and, more specifically, concepts are "actively engaged in the constitution of the reality that they describe" (Callon 2007 p. 318). In broad terms, scholars adopt the concept to explain the "dynamic and circular processes whereby presentation, language and bodies of knowledge co-constitute the realities they ostensible describe" (Gond, Cabantous, Harding & Learmonth 2016 p. 10).

As such, Butler argues that gender is socially constructed through a repetitive performance. For her, gender is "a stylized repetition of acts . . . which are internally discontinuous . . .[so that] the appearance of substance is precisely that, a constructed identity, a performative accomplishment which the mundane social audience, including the actors themselves, come to believe and to perform in the mode of belief" (1988 p. 520).

On a different subject, Latour and other ANT scholars argue that performativity is "[…] the process whereby sociotechnical arrangements are enacted, to constitute so many ecological niches within and between which statements and models circulate and are true or at least enjoy a high degree of verisimilitude. This constantly renewed process of performation encompasses expression, self-fulfilling prophecies, prescription, and performance". (Callon, 2007 p. 330)

These perspectives involve focusing on how people enact in specific fields, with others, with their social structures and with space. It is a relational perspective, because as individuals we are socialised into the world and enact in a way that we reinforce or constitute our identities. It is also practice-based because, for something to exist, it is materialised in some form in specific times and places (Barad 2007; Orlikowsky 2007).

In this respect, the performativity of innovation and development through every-day practices and as such, focusing in the individual, could bring interesting insights for this phenomenon.

In summary, innovation as a mechanism for development should be studied for its impact on people, not strictly on markets and business. This view does not necessarily contradict the aforementioned impact of innovation; it actually complements it and makes it more holistic. What is needed is a framework that permits scholars and practitioners to look at how innovation is a mechanism for development from a human-centred perspective.

2.6 Conclusion

This chapter has focused on a review of relevant literature of innovation for development.

It started by presenting an initial historical explanation of how innovation became a relevant phenomenon for countries. Then it introduced innovation concepts that have been used throughout the years to formulate a way for development. This was divided into the Classical framings and ones that are more contemporary. The goal was to show what these concepts entail and how they have been applied.

The review concluded with the recognition that what is missing from this literature is a closer look at people in the process. This speaks of three layers. The first is a way to break the power imbalance that reinforces the developing country versus developed dichotomy. This will involve a closer inspection of the embeddedness of innovation in specific socio-historical structures.

The second layer has to do with the impact innovation has on individuals, going beyond the narrow economic perspective. And finally, the third layer has to do with who benefits from innovation, who is excluded from the process and why.

Section one explained the recent attention of innovation in the development sector. It presented the conceptions that are embedded in the discourse of innovation for development. According to Pansera (2014), in order to understand how innovation is framed in the practice of development, it is necessary to analyse the constellation of concepts that surround the notion of innovation in the context of application. Influenced by this view, I attempt to look at a particular phenomenon that in many ways bears resemblance to the innovation for development paradigm: the innovation hub phenomena.

I have argued that innovation hubs are part of the innovation for development discourse, supported and promoted by international organisation. Hubs have particular aspects that make them so popular. There are two sets of values being promoted in innovation hubs. The first one is innovation. In this sense, hubs are perceived as similar to incubators and science parks, and evaluated in terms of their contribution to entrepreneurship, business and innovation. On the other hand, hubs adopt the rhetoric of collaboration and community as their central ethos, as reflected in their mission statements and marketing material. In essence, hubs are also championed for their aspects of localised innovation.

Following the literature review, is it possible to know how hubs are framed within the innovation for development phenomena? Are they framed as part of a modernisation and 'catching-up' process? Are they framed as part of a process of inclusive development that seeks to champion innovation from the grassroots? Or are they framed as a vector for an independent process of development? These questions were raised at a very initial stage of my research. The answers are not yet clear.

CHAPTER 3
THEORETICAL PERSPECTIVES

3. Theoretical perspectives

This chapter presents the theoretical perspectives that will be used as a lens to interpret the empirical research data collected. It will clarify the conceptual components that are used during the remainder of this research. Therefore, the first section of this chapter begins with the presentation of the puzzle that this research is trying to address, followed by the introduction of the principal conceptual components.

In the second section, three main theoretical perspectives are presented: Doreen Massey's conceptualisation of space is used to argue for a multiplicity of narratives of innovation for development; followed by Amartya Sen's multidimensional view of development which provides the essential foundation with which to assess the impact of innovation on individuals. What follows is the concept of situated agency through the lenses of intersectionality to provide a more critical perspective on the research. In the final section of this chapter, all components are consolidated to form the theoretical framework.

3.1 The selection of theoretical perspectives

As mentioned previously, there are different ways in which innovation has been framed as a mechanism for development. I have presented the different ways and demonstrated that these ways in many cases hold an underlying view of economic development as the ultimate goal. Not in all cases is this development approach the same, but we can see that in the majority of cases it is framed by a view of development based on economic growth, modernisation and neoliberalism.

The implication of this analysis is not that these ways of framing are completely discrete and isolated. In fact, they exist as permeable and fluid. In some cases we will find studies or interventions that do discuss other aspects not entirely situated within a classic theory of development. They do, however, embody distinctions in discourses and practices that lead to contrasting results of how innovation can drive development, or what is prioritised and incentivised.

This has significant implications for our understanding of what constitutes development and how research can inform practice. It speaks of a linear, fixed understanding of innovation for development, in which a specifically Western and capitalist perspective is often uncritically established as an *a priori* norm. Rather, what is required is to study innovation stemming from other regions to challenge the taken for granted perspectives.

While looking at the impact of innovation – in all its forms and shapes – on economic growth is important and relevant in the discussion, this can limit our analysis of innovation in development. Limit is the key word here. Given this, I propose an alternative way to look at innovation as a mechanism for development. To begin with, I suggest a way to conceptualise the innovation for development phenomena from a multiplicity of narratives, heterogeneous and coexisting.

The spread of this phenomenon in different regions speaks of a spatial component that may have an impact in the way it is being framed. Moreover, innovation hubs are spaces created for entrepreneurs to meet and collaborate, which speaks of a spatial aspect not only in the global dimension (hubs spreading both in the Global North and Global South) but also within the hub (as spaces for collaboration).

In this respect, my attempt is to unpack the norms and values embedded in the claims that hubs make and in the way they are evaluated. In this respect, I apply a spatial perspective that is founded in the work of Doreen Massey. The next section presents the first part of the theoretical framework that guides this thesis.

3.2 Spatial perspective of innovation and Development

"Different places are interpreted as occupying different stages in a single temporal sequence in the various stories of unilinear progress that define the West against the rest (such as modernization or development). Talk of the 'inevitably' of neoliberal 'globalization', to give another example, assumes both a free unbounded space and that globalization takes only one form." (Anderson 2008 p. 229)

For decades, scholars from human geography have been studying space as a decentred, relational, process-based, postmodern concept (Massey 1994; 2005). For Massey, space is a social construction that impacts powerfully on individuals and groups. Her work complements writings of space, which are inherently influenced by social and political theory (Goonewardena et al. 2008). It approaches space not just from the physical space but considers that the aspects of the social, cultural, political and economic life of space need to be studied (Bondi, 2005).

Massey's notion of space and place provides a theoretical perspective of development that departs from the linear trajectory model to emphasise multiplicity, heterogeneity and coexistence of differences (1994; 2005). Massey's work has had a significant contribution in human geography. It has not been applied widely to development studies, or to studies of innovation for development. I present Massey's three main propositions that can help contribute to this field.

In her book, *For Space* (2005), Massey presents three opening propositions to understand an alternative approach to space. The first is based on an anti-essentialist understanding of politics and argues that *space is the product of interrelations*. In this respect, it proposes a relational knowledge of the world and considers that space does not exist before identities/entities; rather it stresses upon the "relational constructedness or things" (p. 10). For example, a university building is only a university when students, teachers, books, departments are in it, relating, discussing and studying. Massey considers that "identities/entities, the relations 'between' them, and the spatiality which is part of them are all constitutive" (ibid). In this sense, she recognises the production of space from the interrelations of the global, the local, and the tiny (ibid). She also associates space with qualities of openness, heterogeneity and liveliness (Massey 2005).

Examples of this appear when describing cities, which are dominated by forms of economic power and hegemonic organising principles, but are also influenced and shaped by cultural networks. She describes examples like the diasporic Asian communities in Birmingham or the gay and lesbian community in San Francisco (Massey 2000). Space and places, then, can connect local practices with global narratives articulated and coexisting.

Massey writes about a 'global sense of place' to address issues of inequality in the world. This conception of space as dynamic and simultaneous is understood in different dimensions, from the local to the global. It is in this regard that Massey's construction of space is in direct response to political issues. Massey recognises that spatial relations are "inevitably and everywhere imbued with power and meaning and symbolism" (1994 p. 3.) She recognises that spatial distribution is not of autonomous existence, and is actually produced and reproduced in response to political issues.

She refers to the 'time-space compression' as the possibility of movement and communication across space, the flows and interconnections and our experience of all this. For Massey, the time-space compression — and all its vast potentials — is full of power geometry and, as such, individuals and social groups experience it differently, if some do experience it at all.

The economic forces that concentrate most of the power construct what is understood to be good or desirable, creating hegemonic stories that seem to be the norm. The possibility to create these hegemonic narratives is not something that is available to all and thus is structurally differentiated. In this respect, some have the power and freedom to benefit from all the potentials of a 'globalised economy' and some not, reflecting an inherent view of development.

She uses the example of Globalisation. She explains that the type of globalisation we are currently experiencing is not arbitrary; it is a project of globalisation that has been shaped by people in power who have institutionalised through different powerful organisations, governments and discourses. As a result, it is so imbued in our understanding of the world that it is now almost impossible to imagine an alternative way of globalisation, one that, for instance, is shaped by values of collaboration and togetherness rather than, for instance, inequality and neoliberalism.

To counteract this hegemonic view of the world – and more specific to development – what is needed is to highlight alternative narratives that are not necessarily part of the mainstream. For instance, Massey argues for the need to stop thinking of Calcutta as just behind Los Angeles, and Bombay as just backward from London, because this view implies that the differences are just a matter of time. Massey's spatial perspective thus recognises "the existence in the lived world of a simultaneous multiplicity of spaces: cross-cutting, intersecting, aligning with one another, or existing in relations of paradox or antagonism" (Bondi, 2005 p. 3). Multiple interpretations of reality are not only possible but are necessary if different realities coexist in the same world. This recognition of 'the other' has political implications: space in the sense of contemporaneous plurality, where many narratives, discourses are recognised and where heterogeneity coexists (Massey 2005).

The second proposition is that *space is the sphere of the possibility of the existence of multiplicity*. Massey argues that space and time are intimately connected, and presents them as a "configuration of social relations within which the specifically spatial may be conceived of as an inherently dynamic simultaneity" (Massey 1994 p. 3). In this respect, she considers that "the story of the world cannot be told (nor its geography elaborated) as the story of 'the West' alone nor as the story of, for instance, that classic figure (ironically frequently itself essentialized) of the white, heterosexual male" (Massey 2005 p. 10).

Multiple interpretations of reality then are not only possible but are necessary if different realities are going to coexist in the same world. This understanding of time-space implies the recognition

of the existence of 'the other' and hence has political implications: space in the sense of contemporaneous plurality, where many narratives and discourses are recognised and where heterogeneity coexists (Massey 2005). In fact, for Massey, the very possibility of any recognition of multiplicity depends on our recognition of spatiality.

For authors like Lagendijk et al. (2011), embracing the notion of multiplicity implies that there should not be an *a priori* assignment of statuses and authorities, nor privileging certain stories over others. In that respect, conceptual frames are never neutral abstractions, they are "deeply embedded in social and political structures, perpetuated through policy-making, disseminated by the media, and underscored and extended through academic analysis" (Rodgers 2004 p. 278). Through this, we can imagine a fuller recognition of the simultaneous coexistence of others, with their own trajectories and narratives, and thus understandings of the world.

Scholars have found this proposition an insightful understanding of spatial knowledge and have tried to widen the theoretical framings which, in many levels, have dominated research coming from a northern-empirical perspective and left Global South narratives at the periphery of academic work (see Ariztia et al. 2015). This is also in relation to what Massey has referred to in other papers as the "time-space compression" (Massey, 1991). She considers there are those who are in many ways in charge and who have the power and initiate flows and movement, who Massey explains include a fair number of Western academics and journalists. In contrast, there are others who contribute to the time-space compression but are never in charge and are somewhat imprisoned in it. Although she does not explicitly state it, several of her examples resemble the differences between the Global North and Global South. Her work then tries to break this power imbalance:

> "It is not simply a question of unequal distribution, that some people move more than others, and that some have more control than others. It is that the mobility and control of some groups can actively weaken other people. Differential mobility can weaken the leverage of the already weak. The time-space compression of some groups can undermine the power of others." (Massey 1991 p. 26)

This leads to the third proposition, which is that *space is always in process and always under construction*. Precisely because space is a product of relations that embed material practices, it is always in the course of being made (Massey 2002). It is never finished and never closed. For Massey, this implies an openness of the future and so she steps away from a Marxist understanding that history repeats itself and the general directions in which the world goes are

already known. This understanding of history as open also implies that space is open and as such, not all the interconnections have been established.

This third proposition leads us to an understanding of space as always becoming. Everything then is always in the process of becoming. In this respect, Massey considers it is problematic to understand complex interactions by seeing relationships between actors and practices as fixed. These relations are subject to variation and *continue to be* subject to change (Rodgers 2004 p. 280).

Massey's ideas present interesting arguments against modernisation and dependency theories of development. However, even though her work has focused on issues of gender and regional inequality, the spatial approach to development has not been extensively elaborated within development studies. Perhaps this is because her work places strong emphasis on claiming a spatial significance to our understanding of the world. Nonetheless, the recognition of multiple narratives situated in different time-space compressions presents interesting insights for a more dynamic and flexible approach to development.

3.2.1 Operationalisation of the Spatial Perspective

The application of Massey's work can be found in different academic channels, but mainly in Human Geography. Her arguments are part of wider discussions around regional innovation and development, which highlight the role of innovation at local, regional and even global scales. From this perspective, the system of innovation concept has been prioritised at a regional level for many years. These scholars, together with Massey, recognise a more complex picture. Such a recognition shifts the focus from one scale—the regional—to a multiple and diverse one (Power & Malmberg 2008; Moulaert & Mehmood 2015).

The rhetoric around regional innovation suggests that high-tech driven economic growth of places like Silicon Valley represent an example of localised, clustered innovation which should be enhanced and promoted. This assumption ties normative strands of innovation and economic development theory, which is then translated into policy and evaluation (Power & Malmberg 2008)

As a contrast, scholars would use Massey's work and the work of others to explain that such rhetoric finds limitations when trying to be operationalised. This is specially because it is difficult to support the idea that such effects of innovation in economic development are regionally confined. Instead, they suggest a more open approach, reducing the regional and geographical dimensions to other dimensions of success.

Massey does not solely develop these arguments, but she represents a stream in human geography that proposes a more nuanced view of innovation.

More recently, scholars studying cities have focused on alternative narratives. In a paper about urban low carbon spaces in Manchester, UK, Hodson et al. (2016) explore such narratives and argue that "It is helpful to explore alternatives to remaking the city that go beyond dominant responses. There are potentially multiple pathways in remaking the city as lower carbon; this is bound up with a spatial politics" (p. 129).

For instance, Massey's ideas have been integrated in the analysis of global cities. The role of the city of London was the subject of her book, *World City*, published in 2007. She explains that London is a global city characterised by inequality, which is produced by a financial elite. For Massey, the inequality produced in a global city is integral to its making, and suggests that the idea that London is the 'golden goose' that will trickle-down its wealth to the rest of the country is a fallacy. London is, for her, the most unequal place in the world.

Following her idea of 'space' as the dimension of coexisting actors and multiplicity, in this book she states:

> "So London, internally, is not a kind of pyramid, with finance as its shining citadel and the rest of us in one way or another dependent upon it. London is rather, as is space in general, a field of multiple actors, trajectories, stories with their own energies—which may mingle in harmony, collide, even annihilate each other" (Massey 2007 p. 22)

In this book, Massey explains with detail the regional inequality between North and the South as intimately tied up with national social structure. Moreover, she also goes beyond the regional borders to stress the global implications. She illustrates this with the mainstream idea of London as a global city on the basis of its finance elite and industries and the characterisation of cities in the Global South "[…] as simply cities of favelas and squatter settlements […]" (Massey 2007 p. 41). To counteract these existing power-geometries and inequalities, Massey proposes featuring alternative narratives:

> "For this understanding of regional inequality to be challenged it needs to be contested by another geography. Such geography would bring those 'other regions' back into view by recognising them in their own rights as locations of their own trajectories and – like London too—as the constantly shifting products of the relations within which they are set" (p. 116 –117).

Massey's work has also been applied to study innovation from a geographic and regional development perspective (i.e. Curtis & Marvin 2011). This stream of scholarship has demonstrated that innovation is unevenly spread across and within countries, and highlighted the relevance of this inequality in economic development.

Perhaps one of the most relevant pieces of work that describes the operationalisation of Massey's spatial concept comes from her book *High Tech Fantasies* (1992). Together with Quintas and Wield, Massey evaluates the diffusion and creation of science parks in the UK, which are based on the notion of scientific production and industrial innovation. Through a socio-historical angle, the authors describe with great detail how the science park phenomenon is highly clustered in semi-rural regions of the south and east of England, exemplifying the social and geographical inequality in the country. This refers to the north-south divide in England, which the authors describe as the division between the "sunbelt south-east and the rest of the country" (Massey et al. 1992 p. 52). Following Massey's suggestion to step away from existing narratives that enhance geographical inequalities, the book looks to present an alternative conceptualisation of science parks that includes the social and economic implications of such spatial distribution. The starting point of the argument asks:

> "[…] Are science parks symbolic of the growing polarisation in the United Kingdom today between an élite workforce and 'the rest'; indeed, more than symbolic but actually, through their spatial separation and self-conscious promotion as élite locations, reinforcing such inequality?" (p. 53)

This book presents a relevant operationalisation to this thesis. It evaluates science parks "in their own terms, based on their own self-conceptualisation and on their own stated objectives" (Massey et al. 1992 p. 29). From this, they demonstrate that far from being a neutral concept, science parks "[…] take radically different forms, in terms of their relation to their local economy, the kinds of companies located in them, their political and financial purposes, and even the relation between public sector private" (ibid p. 10).

This is of great relevance to the analysis of innovation hubs. Following Massey's argument, we can derive that innovation hubs are 'neutral' organisations that exist in a vacuum. To understand more about them is necessary to 'evaluate them in their own terms' and look at them placed in a specific socio-historical context that shapes a diverse set of forms. These forms, however, should not be considered neutral either. They are intimately connected to innovation geographies of uneven distribution and power. To change the 'power-geometries' it is important that the

narratives we are looking at do not exclusively stem from the global cities, so commonly associated with great hubs for innovation. In this respect, it is necessary to look at other spaces in equal terms.

3.2.2   A Spatial Perspective of Innovation and Development

Subsequently, I propose that Massey's proposition will help us:

- Understand innovation for development from a multiplicity of narratives, that are situated in different socio-historical dimensions;

- Highlight alternative narratives that are not championed as part of hegemonic discourses that emanate from a Western-centric view of innovation and development.

This then represents the starting point to unpack how innovation hubs can serve as mechanisms for development. What follows is to look at how innovation for development is being evaluated.

As mentioned previously, the views of development underlining innovation approaches have included economic growth, modernisation and neoliberal approaches. However, as is evident from the literature review, there is far more to development than economic growth. In fact, economic growth can follow many different paths, but not all of them result in the goals that are usually associated with economic development. It can in many ways increase inequalities in one country, or it can do very little for other aspects like crime and health. Furthermore, from Massey's conceptualisation, we can also derive the need to look at an approach that goes beyond the existing power-geometries that prioritise the Global North and allocates the Global South at a disadvantage.

From a normative stance, what is needed is a concept that goes beyond the economy and market to look at ways in which individuals' wellbeing is a priority. From the 1980s onwards, scholars and practitioners started arguing for a more multidimensional conception of development (Chambers 1983). It included environmental narratives of development that were pushing for an agenda on 'sustainable development' (Daly 1996). A main argument under this approach was that several of the factors on which the industrialisation model of modernisation was based depended heavily on the consumption of fossil fuels and agrochemicals, which were affecting the environment (ibid). What is also called the '*impasse in development studies*' included the Human Development movement, which is mainly based on Amartya Sen's philosophical framework.

3.3 The Capability Approach

This section presents the Capability Approach as an alternative way from which to evaluate the impact of innovation in development. To the best of my knowledge, the Capability Approach has not been widely applied to evaluate an innovation for development phenomenon.

3.3.1 Basic tenets of the Capability Approach

The Capability Approach presents a critical perspective and an evaluative framework with a specific definition of development as substantive freedom (Zheng 2007). The main argument of Sen is that 'development' cannot be adequately understood by measuring income alone (GDI/capita), and that a broader conception of development is necessary if we are to properly understand an individuals' advantage or to adequately assess social progress (Sen 1999; 2002). This Human Development and Capability Approach resulted in UNDP producing annual Human Development Reports and the development of the Human Development Index (HDI), a composite measurement of indicators of life expectancy, education and income.

The concept of freedom is used in a broad sense to refer to the effective opportunities an individual has, and their capabilities to effectively lead a life that he or she has reason to value (Sen 1999). More explicitly, Sen's definition of development is "a process of expanding the real freedoms that people enjoy" as well as "the removal of major sources of unfreedom: poverty as well as tyranny, poor economic opportunities as well as systematic deprivation, neglect of public facilities as well as intolerance or over activity of repressive states" (Sen 1999 p. 3).

From this perspective, development should be focused on what people consider as a 'valuable life' for them. This is not to say that in evaluating development we should not assess income or the meeting of basic needs; these are clearly things that people value too. However Sen argues that in order to adequately evaluate development, a wider informational basis is necessary to allow us to assess other things that people value such as the "ability to reason, appraise, choose, participate and act". Furthermore, Kleine (2013) reminds us that "any piece of research based on the capability approach needs to reflect an understanding of development as a process, consider it in a holistic way, and put people at the center, stressing their choices" (Kleine 2013 p. 4). This constitutes a 'human-centred' approach: people are the beneficiaries and the drivers of human development, as individuals and in groups (Alkire 2002). This places human agency (rather than systems such as markets or governments) at the "centre of the stage" (Drèze & Sen 2002 p. 6).

The Capability Approach represents an expansion of the understanding of development, stepping away from the limited view grounded on economic growth proposed by the Classical theories of development. This understanding leads to a very important conclusion: by understanding development from a Human Development lense, we can distance ourselves from the outdated 'developed-developing countries' dichotomy. Even though this still may be considered for some as mainstream terminology, we can now understand that there are several dimensions by which the so-called 'developed' countries are still in the process of developing.

From these lenses, every country is still 'developing' in some way (environmentally, socially, economically, etc.), and therefore there is still work to do. This aspect of the Capability Approach coincides in many ways with a point made earlier in this chapter. When Doreen Massey writes about a multiplicity of narratives and heterogeneity of the world, she is also rejecting a developed-developing dichotomy, which presents one path to progress (to transit from a developing country to a developed one). The Capability Approach presents an alternative framework that allows us to look at development from a multiplicity of narratives that is based on the expansion of opportunities and freedom.

Sen's Capability Approach presents some 'core concepts' that have been widely used in the literature: functionings and capabilities. Functionings are the "beings and doings" of a person – being literate, being nourished, working, voting, accessing information, etc. – and capabilities are the "various combinations of functionings that a person can achieve." These beings and doings together constitute what makes a life valuable (Robeyns 2005). The main distinction between these two is the level at which they operate: "A functioning is an achievement, whereas a capability is the ability to achieve. Functionings are, in a sense, more directly related to living conditions, since they are different aspects of living conditions. Capabilities, in contrast, are notions of freedom, in the positive sense: what real opportunities you have regarding the life you may lead" (Sen 1987 p.36).

For Sen, this distinction is necessary because it is not only important to look at the possibilities of a person to be or do, but also – and most importantly – the actual realisation and accomplishment of that functioning. This distinguishes the Capability Approach from other approaches to development that only address the 'means of achievement' because it looks at the 'freedom to achieve' and the 'actual achievement' (Sen 1990, 1992; as cited in Zheng & Stahl 2011 p.3).

Another important component of the Capability Approach is its liberal approach to individual freedom. From the Capability Approach, "what is ultimately important is that people have the

freedoms or valuable opportunities (capabilities) to lead the kind of lives they want to lead, to do what they want to do and be the person they want to be" (Robeyns 2005 p. 95). This implies the recognition that there might be various ways in which a person chooses the kind of life she wants to live. Again, this reminds us of the notion of heterogeneity and multiplicity from Massey's work. The Capability Approach is able to account for human diversity in societies (Zheng 2009).

Effectively, what becomes relevant to this point is how important the aspect of *choice* is to the Capability Approach. The actual achievement of capabilities is a result of a personal choice that is subject to personal preferences (Zheng 2009). And given that "[w]e are deeply diverse in our internal characteristics (such as age, gender, general abilities, particular talents, proneness to illness, and so on) as well as in external circumstances (such as ownership of assets, social backgrounds, environmental predicaments, and so on)" (Sen 1992 p. xi), we cannot but expect a multiplicity of choices that are affected by both our social structures and our agency.

Another concept that needs to be explained is what individualism means in the Capability Approach. This is of particular importance given that, as will be discussed later on, the Capability Approach has been criticised for being too individualistic. However, I consider that this criticism confuses certain aspects of the Capability Approach, specially with regards to the approach to individualism that it proposes. This will be discussed later on.

Robeyns (2005) explains that Sen adopts individualism from an ethical standpoint. According to her, both methodological and ontological individualism hold the view that social phenomena can be explained by reducing it to individuals, because that is how society is built and what society reduces to. In contrast:

> "Ethical individualism makes a claim about who or what should count in our evaluative exercises and decisions. It postulates that individuals, and only individuals, are the units of moral concern. In other words, when evaluating different states of social affairs, we are only interested in the (direct and indirect) effects of those states on individuals." (Robeyns p. 107)

This is what Sen's individualism means. It is socially just to look at the individual, and not the collective, to assess the extent to which development is taking place. An example that can help illustrate this is the household. Let's imagine we apply the Capability Approach to evaluate a family as the unit of analysis. We may be able to see that overall the members of a household report that they are living a valuable life. In this sense, if we measure wellbeing at a household level, we may see significant levels of education, sufficient food and water, access to information

through technology, etc. But we may fail to see that, for example, the male offspring has more time to watch television or listen to the radio, whereas the younger sister needs to be in the kitchen helping for dinner. This speaks of a lack of freedom by the women in the family because of the expectation of their role as women in society.

Besides the focus on the wellbeing aspect of individual freedom, the idea of "agency" is also fundamental in the Capability Approach (Crocker & Robeyns 2009). Simply put, agency is defined as the 'freedom to set and pursue one's own goals and interests' (Zheng 2009). A person is thus viewed as an "agent" who can "effectively shape their own destiny and help each other" (Sen 1999 p. 11). This is what Sen refers to as the "agency aspect of the individual" (Zheng & Stahl 2011 p.5) for her development: people are actively involved in their development and, in fact, their needs and aspirations matter.

This point has been critical because in many ways it challenged the way development was being implemented. People should not be seen as merely passive receivers of development initiatives, but they should partake in the process (Zheng & Stahl 2011). Following this, a vast number of initiatives have adopted this agency aspect by focusing on ways to empower people so they can effectively lead their own development.

Besides bringing forward the importance of considering a person's own goals and interests, Sen discusses what is presented in the literature as "adaptive preferences" (Nussbaum 2003; Peter 2003).

The concept of adaptive preferences has been used to explain how people can sometimes take part in their own deprivation, given the social structures that shape their perceptions. More specifically, Sen and other authors like Martha Nussbaum have used the concept to explain how sometimes women exhibit preferences that show how they have adjusted to their second-class status (Sen 1999; Nussbaum 2000). For example, "the overworked domestic servant working round the clock, the subdued and subjugated housewife, [who] reconciled to her role and to her fate, tend to come to terms with their respective predicaments" (Sen 1985b p. 21). This woman may consider that she does not want and should not want to change her role in her household. She may in fact be sure that she wants to continue doing domestic work and may even believe that is the role of women in society. These set of values then speak of how unjust conditions have an effect on a person's subjectivity.

Despite Sen's recognition of adaptive preferences, the Capability Approach presents little reference to "ideological or institutional structures that (re) produce adaptation" or how "socially

constructed concepts including gender, 'race' and caste are internalised and affect peoples' preferences and agency freedoms" (Roberts 2015 p.51). Furthermore, Sen's examples of adaptive preferences are normally around people experiencing evident situations of poverty, deprivation and inequality. But the Capability Approach, and all the encompassing concepts, could be applied to assess any individual in any part of the world. In this respect, "all peoples preferences are adaptive to their particular social circumstances, both material and ideological, and in directions that are both positive and negative" (ibid p. 52).

3.3.2 Criticisms of the Capability Approach

Like with any grand major body of theory, there are a number of criticisms of the Capability Approach. These criticisms tend to look at the same issues, but I separate them into three main points to go through each of these with more detail.

Operationalisation

The Capability Approach has been deliberately left 'incomplete' because Sen has intended it to be open for multiple purposes. For some, it is rather abstract and called "an unworkable idea" (Robeyns 2000), and criticised for being insufficiently specific (Corbridge 2002; Gasper 2007); Clark 2006). Some argue that the Capability Approach could be used mainly as a framework of thought or a mode of thinking about normative issues (Robeyns 2005), or as an analytical and philosophical foundation to be built on (Evans 2002).

There are different ways in which the operationalisation problem has been approached. Some of the most renowned ones in this field are Martha Nussbaum's list of capabilities and Dorothea Kleine's Choice Framework.

Nussbaum (2001) has complemented the Capability Approach by presenting a list of central human functional capabilities, which can be universally applied. This list is not meant to be exhaustive, but rather a basis for determining a decent social minimum in a variety of areas by establishing threshold levels of what being fully human requires (Yujuico 2008 p. 502). Nussbaum makes a distinction between innate, internal and combined capabilities (Nussbaum 2001). By establishing this *a priori* list, Nussbaum distances herself from Sen, who insists that the capabilities should be defined from a bottom-up approach by people themselves (Kleine et al. 2012).

The Choice Framework proposes a more detailed operationalisation of the Capability Approach. It draws on two previous frameworks: the empowerment framework (Alsop & Heinsohn 2005); and the Sustainable Livelihood Framework (SLF) (DFID 1999). It offers a visualisation tool to analyse both Sen's Capabilities Approach and Information and Communication Technologies for Development (ICT4D) with potential to go beyond this field (Kleine 2013). More practically, the Choice Framework can be used in monitoring, evaluating and reporting in ICT4D projects.

Alignment with neoliberalism

The fact that the Capability Approach is left open-ended has been interpreted as being able to contribute and align with the dominant social structure, and, more specifically, to the neoliberal agenda (Hickel 2014; Comiling & Sanchez 2014). This implies that while the Capability Approach does offer an alternative view of development, it does not offer a constructive critique of the free market neoliberal system or an alternative model of political and economical and social transformation.

Authors developing this criticism explain that while Sen recognises the importance of building the capability of the poor and promoting development as freedom, the kind of development he aspires cannot be fully reached as long as his approach remains within an individualist capitalist neoliberal framework. More specifically:

> "In saying that the poor should have a central role 'in shaping their own destiny' instead of being 'passive recipients of the fruits of cunning development programs' Sen implicitly recognizes that there is something wrong with the status quo. However, his solution of distributing capabilities is inadequate if the hegemonic neoliberal capitalist system that breeds the prevailing kind of power relations and capability deprivation remains radically unchallenged" (Comiling & Sanchez 2014 p. 10)

The Capability Approach is explicitly an alternative to a narrow understanding of development as economic growth alone. Because of its open and flexible nature, organisations promoting the neoliberal agenda (i.e. The World Bank, IMF) have incorporated the Capability Approach in their

development interpretations and initiatives (Hickel 2014). Sen never stated whether the Capability Approach coincided with neoliberalism. He did, however, express his views of neoliberal organisations. When writing about the World Bank, he said:

> "The World Bank has not invariably been my favourite organisation. The power to do good almost goes almost always with the possibility to do the opposite, and as a professional economist, I have had occasions in the past to wonder whether the Bank could not have done very much better. These reservations and criticisms are in print (1999:xiii)."

Despite the popularity of this criticism, I believe that some issues have been neglected. The first is that Sen's Capability Approach frames the discussion around people's choices being expanded. Derived from this, I consider this refers to everyones' choices, not just a small number of people. In consequence, even though the neoliberal approach was presented as freedom for all, the neoliberal project, as the implementation of this approach, has led to significant inequality in the world (see section on neoliberalism). This speaks of the incompatibility of the Capability Approach with the neoliberal project.

Thompson (2004) conducted critical discourse analysis to assert that even though Sen never explicitly criticised neoliberalism and the organisations promoting the neoliberal agenda, he would not have advocated for these. My reading of Sen recognises that anyone of any political persuasion can use the Capability Approach in their work. This is why it is important to clarify these points and my own positionality around this. And why it is important to ask, equality for what? (Zheng 2009).

Full account and theorisation of social structures

Furthermore, the Capability Approach is useful as a normative framing that insists on a wider evaluation of development than just income and includes the wider range of things that a person has reason to value. However, it does not provide a full account and theorisation of social structures and their constraints in people's choices (Zheng & Stahl 2011).

Regarding this, a number of scholars have proposed to combine the Capability Approach with theories or approaches that explicitly look at the structural conditions of individual agency. As Deneulin et al. (2006) point out,

> "If the capability approach is a theory guiding and assessing development policies according to the capabilities people have reason to choose and value, given the structures

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of inequality within which people express their 'good reasons' to value certain capabilities, it seems that the approach crucially requires a critical account of the 'good reasons' people may have to value certain capabilities (p. 32)."

Zheng and Stahl argued in 2011 that the Capability Approach holds certain commonalities with Critical theories[12] and in fact, a combination of both theories would be beneficial to further develop our understanding of development. With regard to the commonalities, the authors explain that they are both schools of thought that attempt to improve individual and social lives and as such are normative in their view of what should be the pursuit of "a good life". Ultimately "They both aim to contribute to a better world" (p. 5).

Overall, the Capability Approach, as a normative framework, provides a view of development as holistic and comprehensive (Kleine 2013). There are, however, a number of criticisms that are important to take into account and recognising this last one is key for my thesis. This is why it is important to complement the Capability Approach with other concepts that can look at wider social structures and provide a space to analyse them.

3.3.3   Capability Approach, Innovation and Development

The Capability Approach, as an evaluative framework for innovation, has only very recently been applied. There are two bodies of work that are of relevance to this review. One comes from scholars that have studied entrepreneurship and the Capability Approach; and the other is from scholars that have specifically looked at social innovation and capabilities.

I present the papers and studies from these two bodies of work.

Entrepreneurship and the Capability Approach

Entrepreneurship, as a field of study, has often been approached for its impact on economic growth, and not so much on human development (Gries & Naudé 2011). There are some reasons why this has happened, starting with the fact that there is a lack of a theoretical framework that can demonstrate the impact of entrepreneurship in development. Furthermore, human development has often been mainly applied to study poverty research, and entrepreneurship has

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[12] Critical theories combine a rich body of theories that encompass diverse critical approaches and methodologies.

often been left for business and management literature (Pansera 2014). Consequently, management scholars have not evidenced much interest in the impact of entrepreneurship on human development. As a way to solve these shortcomings, Gries and Naudé (2010) propose that entrepreneurship can be considered a functioning (in Sen's terminology) that can become a capability if people involved perceive value in it. In contrast, when individuals are forced into entrepreneurship, or when entrepreneurship is perceived as their only choice, individuals lose their 'agency', thereby the effect it has on development is questionable (ibid p. 218).

Following this, Yujuico (2008) proposes the Capability Approach as a theoretical framework for analysing the concept of social entrepreneurship. The author bases the analysis on Martha Nussbaum's perspective of the Capability Approach that includes a list of capabilities that have universal application. From this point of view, social entrepreneurs can help fulfil central capabilities by removing the hindrances that prevent people from living valuable lives. In this respect, the author states that "As long as states and markets function as imperfect agents in addressing the needs of the deprived, social entrepreneurs will find welcome places in the social firmament" (p. 510).

DeJaeghere and Baxter (2014) draw comparisons between a neoliberal approach and the Capability Approach to entrepreneurship education. The authors explain that student entrepreneurship based on a neoliberal framework looks at behavioural aspects of skills, innovation, job creation and risk assumption on unstable markets. In contrast, from a Capability Approach framework, entrepreneurship education would focus on how the social, material and institutional factors enable or constrain young people from applying the skills learned to improve their livelihoods and their wellbeing. In other words, while the neoliberal approach would focus on skills training, job creation and business improvement, the Capability Approach would look at the way in which entrepreneurship, as a process, can help people lead lives they have reason to value.

Kara and Pamukçu (2011) apply the Capability Approach to innovation studies and present innovation capability as an instrumental freedom for economic development. They do so by analysing two popular concepts from the literature in innovation, namely the innovation capability and the NSI. For the authors, economic development is "[…] a complex dynamic process of structural change associated with an increase in diversity with a wide range of profitable sectors" (p. 9). In this sense, innovation capability can drive development if the outcome is distributed through different channels that people find valuable. The example they present is that of higher wages: if innovation can lead to increasing wages, then it is by extent

contributing to a person's human development because it removes certain barriers to freedom and enables people to act as agents who bring change to their lives.

Furthermore, the authors acknowledge the importance of innovation systems and technological change for societies, although they recognise that "there are still several technological challenges in the developing world which suffer from the lack of innovative solutions" (Kara & Pamukçu 2011 p. 18). As such, they suggest strengthening local talent so that developing countries go beyond adapting ready-made technologies to creating their own innovations, that is, increasing the rate of innovation in these contexts through indigenous knowledge and context-sensitive adaptation. They then make the link to the Capability Approach by stating that "[d]espite this important conclusion, however, we have to emphasise that under the development as freedom approach the distributional mechanisms are also crucial to make the fruits of technological change inclusive" (Kara & Pamukçu 2011 p.19). In other words, what these authors propose is to continue focusing on increasing innovation because it brings about economic growth, but it should be ensured that the outcomes are distributed amongst everyone because this increases people's agency to introduce qualitative changes to their own lives.

The paper does not present empirical evidence and calls for the need to apply these hypotheses. To the best of my knowledge, there has been no operationalisation of Kara and Pamukçu's ideas. The reason why I am not applying them in this study is that, while the paper combines two fields relevant to the phenomena in question, my approach to the innovation literature and Capability Approach differs. As will be presented later on, my argument is that innovation can have an impact on people's choices and freedoms without necessarily having an impact on economic development. While Kara and Pamukçu look to operate within existing framings of innovation, in this thesis I expand them so that they can be applied beyond them. In this respect, I offer a critique of the existing innovation concepts and highlight how they have been limited to explaining just one of the outcomes (i.e. economic growth) when there can be, in fact, many more.

Social innovation and capabilities

In a special issue of the Journal of Human Development and Capabilities, the editors explain their surprise with the very limited number of studies that have combined innovation as a concept with the Capability Approach (Chiappero-Martinetti et al. 2017). They explain that the Capability Approach is key to understanding social innovation further, because this phenomenon arises "[…] whenever problems of poverty, exclusion, segregation and deprivation or opportunities for

improving living conditions cannot find satisfactory solutions in the 'institutionalized field' of public or private action" (Moulaert et al. 2013 p. 2).

Overall, the editors suggest that a common point in all studies is the recognition that to overcome poverty, exclusion and marginalisation, it is necessary to include people in the design of the projects and policies being designed for them. In this respect, the Capability Approach serves as a reminder that narrow economic and political perspectives are limited, and what should be substantial is the focus on agency and empowerment, that can be achieved through participatory approaches rather than imposed, top-down design.

As such, the first study is an analysis of EU social innovation policy documents and how adopting a Capability Approach perspective can improve the existing problem of marginalisation. It suggests including marginalised groups in the policy design and implementation process, thereby enabling a transformative potential of social innovation as presented in the EU documents. Matthews (2017), in a study of innovations among a rural village in Niger, also suggests that top-down interventions result in resistance from the indigenous community and challenges the DoI for presenting a very simplistic view of innovations and utilising a "linear step-by-step process and it suggests that all people make decisions in a succession of logical steps that begins with knowledge or information" (p. 231). The author draws on his data to show how the Hausa farmers in the village adopt a circular and iterative rather than linear framework as presented in the DoI (Matthews 2017).

Another interesting study in this special issue comes from Sahay and Walsham (2017), who look at the role of ICT innovations in contributing to human development. They study the development and use of a hospital information system in Himachal Pradesh, India and identify three processes of relevance for human development: strengthening processes to include the disadvantaged, empowering the patient and making communal voices count (Chiappero-Martinetti, et al. 2017 p 144). The paper goes beyond looking at the technological innovation to also consider the social and institutional innovations and the effect these had on the people involved in the process (Sahay & Walsham, 2017).

All these studies, including their approaches and findings, are relevant for this research. They advance my understanding of the literature by adopting the Capability Approach to analyse what has normally been left for organisational and management fields. They present me with what has already been analysed and what is yet to be done. It is evident, however, that there is a few number of studies that remain on the periphery of both innovation studies and development

studies. Entrepreneurship and innovation, even though they have been discussed for their impact on the economy, have not been extensively discussed for their impact on human development. This thesis hopes to address this gap in the existing literature.

Furthermore, these studies open a conversation about the positive and apolitical role of entrepreneurship and innovation for development. For instance, recently there has been a discussion of entrepreneurship as a way to solve unemployment in 'developing countries'. This results in the view that entrepreneurship is a great way for young people to solve their own unemployment problem. The main message being sent is 'there are no job prospects, there is no money, then one must become an entrepreneur'. These discussions are part of various debates of entrepreneurship and innovation that seem to ignore any conversation about the aspects that are creating an unstable environment in the first place, aspects that are more related to substantive drivers of poverty, like structural adjustment, financial crisis. These external forces are being ignored by the personal and individual responsibility of getting out of poverty (Hickel 2014). As much as entrepreneurship and innovation could be part of the solution, they will not solve the structural issue that created that state of affairs in the first place, because what is required is a holistic and multidimensional process towards systemic change.

While authors like Yujuico (2008) consider that the inefficiencies and lack of resources in society are a great opportunity for entrepreneurial individuals, they seem to ignore why it is that those deprivations exist. Instead, they appear to replace discussions about the structures that create the lack of support or services in the first place. This narrative is apolitical enough that it pleases a spectrum of organisations and institutions that promote it through development interventions. Because of this, I believe it is important to approach innovation not necessarily as a great opportunity in a vast, unequal world, but observe instead what are the structural causes that create such disparities. Here we return to Massey's critical conceptualisation of space and development. Innovation and the way it is framed should not be taken 'as it is' without further discussion about who is promoting this agenda, from where and for what purposes.

In summary, what I propose is that we open the scope of the innovation process literature, and observe it as situated in its wider contextual dimensions. These dimensions should include ways in which structures and power geometries are central to the analysis. In this sense, we should take a more holistic view of innovation, and its impacts in a specific context. The Capability Approach then offers an alternative framework to ask the interpretive question 'Can innovation be a mechanism for human and inclusive development?'

I argue however that this is insufficient. As discussed above, the Capability Approach has been criticised for not providing a theorisation of social structures, and how these affect an individual's opportunity for freedom expansion. Massey's critical conceptualisation of space reminds us that the geographies of the world are "intimately entwined with the most fundamental of political issues" (Massey 2007 p. 23). As such, structures and dimensions of power and inequality are necessary. Complementing the Capability Approach with Massey's political analysis allows us to analyse critically who benefits from innovation and what power interests are furthered.

Kara and Pamukçu (2011) explain for instance that innovation can lead to development if it is inclusive and if there is a redistributive mechanism. I argue that any comprehensive evaluation of innovation for development needs to concern itself with who benefits from the process. Can we speak of a multiplicity of narratives and heterogeneity of a process if we do not include narratives of experiences not just from places, but from individuals involved in the process? To be able to account for all the experiences is an impossible task, but can we at least present narratives that have, for years, been ignored from the mainstream hegemonic spaces?

It is why I consider that the analysis needs to be complemented with an analytical tool that can help provide an understanding of societal structures and constraints on personal choices. The following section presents the concept of situated agency and intersectionality, both critical perspectives that can help shed light on an individual's experience of innovation and capability expansion, or constraint.

3.4 Intersectionality

During the 1970s, feminism was an established academic and political movement and body of knowledge. However, it started to be recognised that gender was not the only dimension of discrimination that shapes women's lives; their race, class, sexuality, age or (dis)ability may add additional layers of disadvantage. This was highlighted by women of colour and lesbians who saw very little of their own perspective in mainstream feminist theories (Collins 1998; Collins 1989; Hull 1982).

In 1989, Kimberlé Crenshaw coined the term intersectionality and defined it to "denote the various ways in which race and gender interact to shape multiple dimensions of Black women's employment experiences" (Crenshaw 1993; Crenshaw 1989 p. 12441). In her article, 'Demarginalizing the Intersection of Race and Sex', Crenshaw demonstrates that "boundaries of sex and race discrimination doctrine are defined respectively by white women's and Black men's

experiences" (p. 143). The concept of intersectionality successfully articulated a frustration that many Black and working-class women had with a women's movement that seemed exclusively at the service of middle-class white women. bell hooks wrote in 1984: "Racism abounds in the writings of white feminists, reinforcing white supremacy and negating the possibility that women will bond politically across ethnic and racial boundaries" (p. 3). This lack of accounting for female diversity pushed many in the women's liberation movement to develop the concept of intersectionality.

Intersectionality as a concept has evolved throughout the years, and it is now presented as "the critical insight that race, class, gender, sexuality, ethnicity, nation, ability, and age operate not as unitary, mutually exclusive entities, but as reciprocally constructing phenomena that in turn shape complex social inequalities" (Collins 2015 p.2). The evolution of the concept stems from going beyond the intersections it initially highlighted (being a black woman in the US), to one that recognises there are various intersections of disadvantage. Given this, intersectionality has transcended to become a paradigm for contemporary feminist theory and research (Carastathis 2014).

The concept has been applied and interpreted widely, and has travelled different disciplines, constantly changing and adapting. While the concept is a great diagnostic tool that can help deconstruct people's experiences of disadvantage, it is also proposed as an analytical and methodological basis where different categories/identities can be re-conceptualised into 'coalitions' that better "acknowledge and ground the differences among us" (Crenshaw p. 1298).

3.4.1   Criticisms to intersectionality

The concept of intersectionality has received much attention but has also raised some concerns. Patricia Hill Collins (2015) explains that "When it comes to addressing intersectionality's definitional dilemma, the devil is in the details" (p. 2). I present three main criticisms that are relevant for this study.

Methodology

The first one is about the method (Bastia 2014). The fact that intersectionality does not present particular methodology results in a rather ambiguous and open-ended theory (Davis 2008). Bastia (2014) explains that the methodology mostly applied in intersectional studies is the 'life story approach', which implies focusing on one individual and the multiple and situated identities that place her in a position of disadvantage. According to her, this raises questions about the generalisability of findings, given the diversity and complexity of human life. Furthermore, by

focusing on the micro-level (i.e. on the characteristics of the subjects in question), Bastia argues that the researcher can ignore structural factors that lead to both exclusion and privilege (Squires 2008) .

It also raises concerns due to "the complexity that arises when the subject of analysis expands to include multiple dimensions of social life and categories of analysis" (McCall 2005 p. 1772). Trying to understand all the various categories is a difficult task, and it implies that certain methodologies are excluded and thus some knowledge as well.

In this respect, scholars have followed McCall's (2005) complexity approaches to intersectionality and either rejected categories altogether or adopted existing categories to document relationships of inequality in one particular social group at neglected points of intersection (Wright 2016). Scholars have also used categories as a way to take the relationship of inequality among social groups as the centre of analysis and uncover both advantages and disadvantages experienced by different groups. This last approach, known as the intercategorical complexity approach, maintains a critical stance towards having categories, but it also acknowledges there is a stable and durable relationship that social categories represent in a given place and at a particular time, and so it provisionally adopts categories for the analysis (McCall 2005). These different approaches to intersectionality have been considered as part of a project to expand the scope of intersectionality to fit under a common ground for all feminist research (Carbin & Edenheim 2013).

Although I understand Bastian's concern about generalisability of findings, I believe that applying intersectionality to understand further a particular phenomenon of innovation can contribute to our understanding of the concept. The issue with generalising from very specific case studies of individuals should not be a problem if the analytical process includes furthering a concept without expecting universal applicability, but rather an alternative perspective to already mainstream knowledge. In this sense, it is important to recognise the criticism and look at selecting individual cases that can help us understand more about how different intersections of disadvantage affect a person's freedom to innovate and benefit from the process, without then expecting that those specific intersections will always lead to the same outcome. Considering people as embedded in particular structures and going backwards and forwards between the individual and the structure will help address this.

Furthermore, considering McCall's complexity approaches, I believe that it is better to adopt the intercategorical complexity approach so that instead of imposing identities that may be visible to

me, through the semi-structured interviews I can see whether the respondents themselves express any specific identities that are valuable to them. This is further discussed in the methodology section.

Scale

Closely related to this, the second criticism is about what Bastia labels as 'scale'. The author explains that studies using intersectionality have a tendency to focus on the micro-level, by following an individual's story and experience in a particular place in time. For Bastia, this implies that intersectionality then does not help analyse the macro-level, referring to what she labels a problem of scale. This is of relevance when looking at development given "that such macro-level analyses are generally important, particularly for mainstream development studies" (Bastia 2014 p.11).

Furthermore, the question of who is the focus of study in intersectionality is also presented as a challenge. Nash (2008) wondered whether everyone was intersectional or whether it should be a concept only applied to those considered marginalised. In this respect, she states "[…] if intersectionality is to work as an anti-exclusionary tool, then it needs to address both privilege and oppression and how different axes of differentiation work through each other to produce both […]" (p. 9). Privilege is not widely discussed or analysed from intersectional studies, and so there is a missing link to challenge "hegemonic approaches to the study of stratification as well as reified forms of identity politics" (Yuval-Davis 2006 p. 201).

While I agree with the view that everyone can experience intersectionality, and as such, we should study both situations of privilege and disadvantage, I disagree with the notion that intersectionality fails to provide a framework to analyse the macro-level. This will be of particular relevance to my study because I will apply intersectionality in two very different contexts. In this respect, I expect that women's experiences will differ and this will be largely a result of the macro-level in which they are embedded.

Diagnostic

Finally, intersectionality has also been questioned for remaining at the diagnostic stage and therefore not being able to offer a way to change the disadvantage that it helped identify. Intersectionality is a useful concept for identifying different factors that lead to marginalisation and disadvantage of people, but it does not offer theoretical tools to change that. In this regard, intersectionality has been used in a depoliticised manner, making it fit any feminist agenda. As

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Carbin & Edenheim (2013) say, intersectionality has moved from being a criticism of white feminism "[…] to a consensus-creating signifier that not only made the concept successful but also enabled an institutionalization of a liberal, 'all-inclusive' feminism based on a denial of power as constitutive for all subjects (and non-subjects alike)" (p. 234).

Overall, I believe these criticisms highlight the need to present a situated understanding of intersectionality. As an analytical concept, intersectionality should be rooted in historically grounded and context-specific analysis of social relations, rather than study people as existing in a vacuum.

3.4.2   The intersectionality of entrepreneurship and innovation

There are a very limited number of studies on innovation and entrepreneurship taking an intersectional perspective (Holvino 2010). In 2009, Essers and Benschop analysed how the intersections of Islam, gender, and ethnicity are experienced as a site of limitations, opportunities, and legitimisation, and how these enabled as well as constrained entrepreneurial activities. They researched Muslim businesswomen in the Netherlands and found that being an entrepreneur gave women the freedom to work and to follow their religious traditions, like their prayers and Ramadan. This sort of autonomy helped women combine their Muslim identity with gender and entrepreneurial identities and yet they still had to deal with conflicting messages coming from their religion, their nationality and ethnic background. By illustrating different experiences of Muslim businesswomen, the authors help us to understand that looking at women entrepreneurs from an intersectional approach is making a situated contribution to the revision of the archetype of the white, male, individualistic, Calvinist entrepreneur (Essers & Benschop 2009).

Harvey (2005) studied the ways in which intersections of race, gender and class shape working-class Black women's experience with entrepreneurship in the USA. She found that entrepreneurship could be a gendered choice because it allows women to balance work and family. This speaks of their intersection between gender and class since working-class women cannot hire professional child care and so need to have more flexible working hours, differing from middle-and upper-class women's decision to enter self-employment (Harvey 2005 p. 798). She demonstrated that entrepreneurship offered "a way to sidestep some forms of racial and gendered discrimination and to achieve the economic stability necessary to provide for her family." (p. 799) Furthermore, Harvey found there was a willingness to help other women based

on shared experiences of racial and gender discrimination within the same class position. This, she explained, could have been because of the disadvantages for entrepreneurship faced by black working-class women (like difficulty accessing start-up funding).

These studies have highlighted the importance of studying intersectionality of social categories of exclusion such as gender and ethnicity within entrepreneurial contexts. They show how women who become entrepreneurs do so as a way of using their agency to increase freedoms, income, autonomy but in ways that do not challenge the social construction of childcare, cooking and cleaning as womens' work. In the context of such unequal gender division of labour, a woman being an entrepreneur takes a double-shift as she must still do a full days' housework or make it a low-pay job for another woman of an ethnic minority.

Research on female entrepreneurs loosely classifies between what Gill & Ganesh (2007) refer to as traits-oriented research, and more feminist-oriented research. The former approach involved the study of female entrepreneurship primarily as performance comparisons between male and female entrepreneurs, i.e. demographics of age and education as well as attitudes and perceptions such as risk aversion, growth ambitions, or self-efficacy (e.g. Sexton & Bowman-Upton 1990; Pines et al. 2010).

Overall, the traits-oriented research has neglected gender, pertaining masculinity as the norm and thus, reproducing gender inequalities (Ahl & Marlow 2012); but also ignoring ethnicity, by disregarding or not collecting data on ethnicity (Gill & Ganesh 2007). What results, then, is that findings and conclusions derived from one specific group (e.g. white women) are generalised and considered findings for all women (Gill & Ganesh 2007).

The more feminist-oriented research has already highlighted that literature on women entrepreneurship has excluded feminist theory almost entirely (Mirchandani 1999) and presents itself as more critical of popular masculine discourses of entrepreneurship and mainstream research on male entrepreneurs (Ahl 2006; Brush 1992; Edley 2000). These studies on gender look to demonstrate how the phenomenon of entrepreneurship is highly gendered (Minniti 2009).

In some cases, this stream of the literature suggests that entrepreneurship as a career allows women to have more autonomy over their work environment and thus not necessarily be affected by an organisation's existing gender roles (Thébaud 2015). This is assumed to benefit female entrepreneurs since they can establish their own set of rules and work dynamics. However, although it may be suggested that entrepreneurship offers women more choices than they have previously enjoyed (Gill & Ganesh 2007) it is concerning when the focus on 'unleashing'

individual women's entrepreneurial energies ignores any conversation about structural disadvantage that places women in that position in the first place.

3.4.3 Situated Agency

Situated agency has been mainly developed by feminist scholars who recognise that human beings are always uniquely situated (Beauvoir 2011). Simone de Beauvoir was one of the first writers that discussed the idea of situated agency in relation to women. Beauvoir shared Jean Paul de Sartre's idea of existentialism, a philosophical approach that emphasises individual existence, freedom and choice.

'Situated' is based on Heidegger's concept of 'situation', which implies that our choices are the basis of our freedom and the source of our limitations. From this perspective, Beauvoir considered that no real essentialist structures existed of what life is and how to behave in the world. For women then, she argues there is "no archetype, to no immutable essence" (Beauvoir, 2011 p. 289). However, Beauvoir recognised that a woman's freedom of choice presented a limited range of roles in "the closed chamber of history's conspiracy against her" (Grosholz 2004 p.14). This established a connection between the parameters of individual freedom and collective freedom, which are not always in harmony. In fact, for women, most of the time they are not. In the 2nd edition of *The Second Sex*, Beauvoir writes about the emancipation of women from already existing structures in society:

> "To emancipate woman is to refuse to confine her to the relations she bears to man, not to deny them to her; let her have her independent existence, and she will continue nonetheless to exist for him also: mutually recognising each other as subject, each will yet remain for the other an other. […] when we abolish the slavery of half of humanity, together with the whole system of hypocrisy that it implies, then the 'division' of humanity will reveal its genuine significance, and the human couple will find its true form."(Beauvoir 2011 p. 17)

In this respect, situated refers to the whole context in which we give meaning to our lives, a situation that we find ourselves, which includes our embodiment and the meanings given in our particular socio-historical location, having an impact on our choices and freedom (Gray 2016 p. 3). In this respect, Beauvoir's concept of situated agency provides a theory that can hold the ambiguity of the self as both a collection of social prescriptions and processes and at the same time an agent with differing levels of access to freedom. In other words, being both a continual

struggle between our capacity for freedom and our immersion into this world (Gray 2016). Our will (and our agency) is not distinct from our "[…] contingent ends, our culture, our history, or our actual (and possible) relations to others. Agency is situated" (Herman 1991 p. 795).

This does not imply, however, a deterministic view of individuals. Gray provides an explanation based on her personal positionality that summarises this point clearly:

> "I was born as a white, able-bodied female in the early 1980s, in a small logging town on the North Island of New Zealand. None of these material conditions, their socio-historical meaning, or indeed my entry into the world itself, are expressions of my freedom, however my freedom depends on their existence. My situation is what makes my freedom njpossible as well as being the starting point from which I choose my projects. The influence of our situation on our choice of projects is seen in the way that situation acts to expand our possibilities in the world. A change to my birthplace would have changed my possibilities; a change to my body would have altered the starting point for my perspective on the world. From this situation we make choices which in turn we derive our meaning. Our situation does not constitute us, yet it does give us a location within the world through which it becomes meaningful – through which it becomes 'ours'." (2016 p. 3)

This refers to a form of ambiguity, where our existence is influenced by the different facts of our embodiment (i.e. birthplace, body, etc.), and our freedom (i.e. the decisions that we call ours, our values, etc.) that is situated. These ideas have been of particular significance in feminist studies because it helps understand the diversity of women's experiences based on "[…] the significance of the contingencies of culture, time, mobility, and place" (Masika & Bailur 2015 p. 48). Agency, as the ability to act in the world, is not only based on individual choice. This choice is dependent on a woman's motivations, values and constraints. These are at the same time dependent and mutually constitutive to the social norms in which she operates (Peter 2003).

Furthermore, besides being a product of our specific socio-historical settings, agency is also "situated in a sometimes invisible or taken-for-granted network of ideology […]" (Zheng & Stahl 2011). This network of ideology shape how we relate to others and the world, but it also shapes industries, discourses, and knowledge. It presents us with the recognition of hierarchies and power mechanisms that are not a given but are the result of specific agendas of unequal distribution of power (Grosholz 2004). This is where many feminists have explained how the

social and historical domination of men over women is part of a network of socially constructed ideologies to be abolished. Moreover, this is where Beauvoir's most renowned phrase "One is not born a woman, but becomes one" makes critical sense.

At this point, I would like to reflect on how this concept shares similar critical views with concepts already introduced in this chapter. As mentioned previously, Doreen Massey argues that many of the things we know of the world are based on hegemonic narratives driven by those who hold the power. In one of her writings, she uses the example of globalisation. She explains that rather than it being a phenomenon that increases contacts with different people in the world, the globalisation we are experiencing now is a project imposed by those in power, which speaks of flexible labour markets and competition:

> "So whose project is it? This form of globalization is a project through the World Trade Organization, the World Bank, the IMF, Western governments, a good many governments of the Third World who want to buy into 'the club', and of course it's a project of multinational corporations" (Massey 2000 p.136).

In this respect, Massey reminds us that there are specific agendas that are being hidden as a normal, inevitable part of history. She urges us to look at this critically, by reminding us that there are multiple ways in which globalisation can take shape rather than the one that is part of a specific network of ideologies of those who hold the power.

Furthermore, as mentioned in the Capability Approach, the concept of adaptive preferences has been used to explain how the existence of social structures can shape individual's perceptions, and people, to their own detriment, can sometimes interiorise this. Adaptive preferences, as the internalisation of oppressive social structures operating both at the level of ideas, and materially (Poveda & Roberts 2017), recognises that individuals cannot live "truly autonomous and independent of the influences of the society in which they live" (Stewart & Deneulin 2002 p. 7).

What makes situated agency a key concept for this thesis is that it provides a theory that can hold the ambiguity of the self as both a collection of social prescriptions and processes, and at the same time an agent with differing levels of access to freedom (Gray 2016). In this sense, existence is characterised by a continuous conflict and struggle between our capacity for freedom and the alienating processes of socialisation. We are always becoming, constraining and being free. This is of relevance for our understanding of innovation for development, to see whether aspects of inclusion are significantly affecting individuals and how they navigate based on both their freedoms and constraints.

Situated agency has been adopted to demonstrate the need for change, towards more egalitarian realities. It has also been applied to understand how people in some instances in history have been part of a sexist agenda without fully acknowledging it. Moi, in Grosholz (2004) introduces the example of Aristotle, who thought of women as naturally inferior to men often equated with slaves:

> "It seems wrong to say he is not at all responsible for his ideas about women, yet it also seems wrong to say that egalitarian ways of thinking were readily available to him. The question here is not the meaning of Aristotle's words, but the degree of responsibility he bears for them. If some famous philosopher in 2003 spoke of women (and ignored women) in the way Aristotle did, he would surely provoke an outrage. Today there could be no mitigating circumstances for a philosopher who chose to speak in this way." (p. 153)

Moi explains that if we took Aristotle's ideas out of context, denying their historical and social contexts, we would be able to offer an unfair critic. In that respect, there is a need to look at individuals, and their ideas, as uniquely situated. What aspects of a person's situated agency should be considered to understand her experiences is a matter that has been left open-ended.

3.4.4 Application of intersectionality and situated agency

Very few studies have applied intersectionality and situated agency to innovation and entrepreneurship. In this section, I present them.

Throughout the years, feminist theories have made considerable contributions to our understanding of development. However, neither situated agency nor intersectionality have been widely adopted in the literature. Bastia (2014) explains that this is because during the 1980s intersectionality was mainly associated with the cultural turn in feminist theory, whereas those working on gender and development were mostly interested in socialist feminist positions. Where intersectionality has been applied by development organisations, it has been mainly used as a way of capturing and understanding oppression and discrimination that different individuals and groups are subjected to (Enarsson 2015).

In the context of Information and Communication Technologies for Development (ICT4D), situated agency and intersectionality have been applied to one study. Hoan et al. (2016) applied situated agency through the lenses of intersectionality to examine how mobile phones can have an effect on agency and empowerment of Vietnamese foreign brides in Singapore. It applied the Capability Approach and addressed the overly individualistic perspective through situated agency

within the frame of social power structures. Intersectionality then is presented as the framework through which situated agency is understood and applied. Through this theoretical framework, the authors were able to see that mobile phones helped women in facilitating their aspiration for individual changes, autonomy, and more powerful decision making roles. However, at the same time, mobile phones also reinforced these women's own idealised femininity and traditional gender roles.

Incorporating situated agency through the lenses of intersectionality into the analysis allows us to evaluate the design of social arrangements and the basis of cultural norms as part of the assessment of wellbeing and agency freedom. What this means is that development approaches and initiatives may be advocated to prioritise specific agendas of elites or powerful actors and, as such, reify existing inequalities. In this respect, it is important to look at the ideologies that are hegemonic in the specific socio-historical setting. As a way of illustrating, Zheng & Stahl (2011) explain:

> "[…] technology itself can have an ideological status, for example when technology is equated with progress and progress is assumed to be unquestionably desirable; when technology represents 'expert knowledge' that exercises 'disciplinary power' (Foucault 1980); or when technology embodies contested social regulations, for example through digital rights management. Hegemonic means to uphold the ideological quality of technology can then be drawn from the environment in the form of customs, agreements, or the law." (p. 7)

Scholars from the Human Development & Capability Association (HDCA) have previously discussed intersectionality as an analytical tool to understand inequalities amongst groups (Samman & Roche 2014). Even though Sen's Capability Approach places strong emphasis on the individual as the unit of analysis to evaluate human development, scholars within the association have expanded this by recognising the effects of collectivity for expanding choices (Ibrahim 2006; Ibrahim 2013). Likewise, scholars have also raised attention to the systematic differences across groups, explaining that constrained opportunity structures have a strong incidence in the expansion of choices (Robeyns 2003). Group-based inequalities may not be subject to change, such as gender or age. Others may change and have an effect in other dimensions, like socio-economic status.

Authors applying intersectionality as an analytical tool to assess social exclusion from a Human Development perspective show how the intersections matter, and offer ways to tackle that from a policy level. Stewart (in Samman & Roche 2014) explains the importance of group-based inequalities or 'horizontal inequalities'. These differ from inequalities among people or 'vertical inequalities' in that they tend to have long lasting effects and pass through generations. She considers that horizontal inequalities differ from an intersectional approach in that it goes beyond looking for the intersections to look for the causes and consequences of the inequalities experienced. This is in relation to the already mentioned criticism that intersectionality provides a diagnostic tool, but fails to offer a way to go beyond that. Vertical inequalities, as stated in Stewart's writings, require incentives and rewards of particular efforts to change. However, horizontal inequalities focus on an individual's incapacity to escape from the inequalities that are outside of her control because of her race or gender for example. What Stewart recommends then is a "policy lens that is sensitive to how discrimination constrains human development attainment" (Samman & Roche 2014).

Kabeer (2010) looks at the intersecting inequalities that reinforce the persistence of social exclusion over time. Inequalities are categorised in different dimensions: cultural, spatial, economic and political inequalities. For authors like Kabeer (2010), the complementary and intersecting nature of these inequalities reinforces the persistence of social exclusion in the world. Moreover, she recommends strengthening information policies to tackle exclusion, starting by improving methods to collect and disaggregate data so that they can monitor whether excluded groups are benefiting from progress in relation to the Millennium Development Goals (MDGs) (Kabeer 2010 p. 42).

These are examples that show how intersectionality has been used as an analytical tool within the Human Development and Capability Approach in practice. Theoretically, this raises some questions. Firstly, it is linked to Bastia's (2014) criticism of intersectionality and the difficulty of focusing on the macro-level. The evidence of these studies reflects a different picture, given that they do apply a macro-level perspective to intersectionality.

Because the Capability Approach by itself cannot help us understand structural and social aspects that have an effect on individual agency, I adopt the concept of situated agency as a critical lens. Given that the intersectional framework proposes a way in which various categories that interconnect may lead to different levels of oppression, we can understand that a person's intersectional positionality and identity have an impact on whether her choices are expanded.

Instead of considering an individual's identity as separate essentialist categories, it looks at the structure as a whole to avoid privileging one system of oppression over another.

In theorising the 'situatedness' of agency through the constitutive nature of gender, race, class, and other aspects that shape our world, we can look at how the innovation for development phenomenon has been gendered through everyday practices and see how it is rooted in context-specific socio-political frames of reference.

To evaluate whether and how an individual perceives her experiences in a hub, we need to look at her agency as situated in a specific context, with hegemonic narratives that shape her world (i.e. situated agency). However, these are perceived and experienced differently depending on the person's intersectionality. Situated intersectionality proves to be a flexible approach to understanding people's experiences based on locally constructed norms and definitions (Bastia 2014).

I will use situated agency through the lenses of intersectionality to address whether women's choices have been expanded from being part of an innovation hub. This will provide a holistic view of the impact of innovation on development of the Capability Approach, complementing Massey's conceptualisation of space and development.

3.5 Integrating theoretical perspectives

As mentioned previously (Chapter 2) the innovation for development discourse and phenomena proposes a narrow focus on economic growth and operates within a market-based perspective, failing to take into account a holistic perspective that focuses on people's experiences, perceptions and values; that is, a human-centred perspective. This situation, which I have summarised as the 'invisibility of people' in innovation for development, is conflicting when looking to advance a framework that speaks of progress and wellbeing.

What I argue is that the way innovation for development is framed has been neglecting the impact that innovation can have on people more than systems, products and processes. As such, the focus of innovation for development is on outputs, patents and businesses, leaving what people perceive, experience and value to a low priority.

While the focus on economic growth is important, I argue that focusing on people (i.e. a human-centred approach) will present an alternative framework to evaluate the innovation for development phenomena. This will help develop a complementary and holistic view of the process.

I have proposed three theoretical frameworks to help move this forward. These three approaches are analysed separately in papers submitted to journals or conference proceedings. However, they complement each other in several ways.

First, they are all framed to expand current innovation for development phenomena, and consequently, explore innovation hubs as a new phenomenon. Secondly, they all focus on what people value of the process and the practices.

Not on products, patents, competitive advantage, but on a broad conceptualisation of innovation. And thirdly, they focus on aspects of inequality and injustice, and propose ways to either interpret this or look at it critically.

As presented in this chapter, each concept proposed individually present some limitations. For instance, the Capability Approach, as mentioned, is helpful in evaluating development at an individual level, but is insufficient in acknowledging wider dimensions of disadvantage that have an effect on capabilities. Massey's concept of space provides a global perspective, shifting the discourse of development to one of multiplicity, but it is insufficient in explaining more precisely what people value and the impact of innovation at the individual level. As such, the strength of this thesis relies in combining three theoretical perspectives to complement them and provide a more holistic analysis.

In that respect, where the Capability Approach falls short in our understanding of the structures, the concept of intersectionality helps us understand how wider dimensions of disadvantage can intersect to enable or constrain a person. Situated agency then, serves as a way of linking both concepts to recognise how our individual agency is affected by specific socio-historical context, and how in most circumstances women, for instance, have been historically placed at disadvantage.

It is through the application of these three theoretical frameworks that I present a view of innovation for development as from a human-centred perspective. Figure 3 illustrates the application of the three theoretical perspectives and how they complement each other. At the bottom of the diagram, representing the individual level is the Capability Approach. Representing the structural level is the concept of intersectionality, which provides a focus on wider dimensions of disadvantage. Mediating between both concepts is situated agency, which represents the tensions between the individual and structural levels. Overall is Massey's conceptualisation of space which represent the global discourse of multiplicity and heterogeneity.

Figure 3: Integrating Theoretical perspectives

Spatial Perspective

Structural conditions	Intersectionality Intersecting dimensions of disadvantage
	⇕
	Situated Agency
	⇕
Individual level	Capability Approach Expansion of capabilities

Multiplicity

Heterogeneity
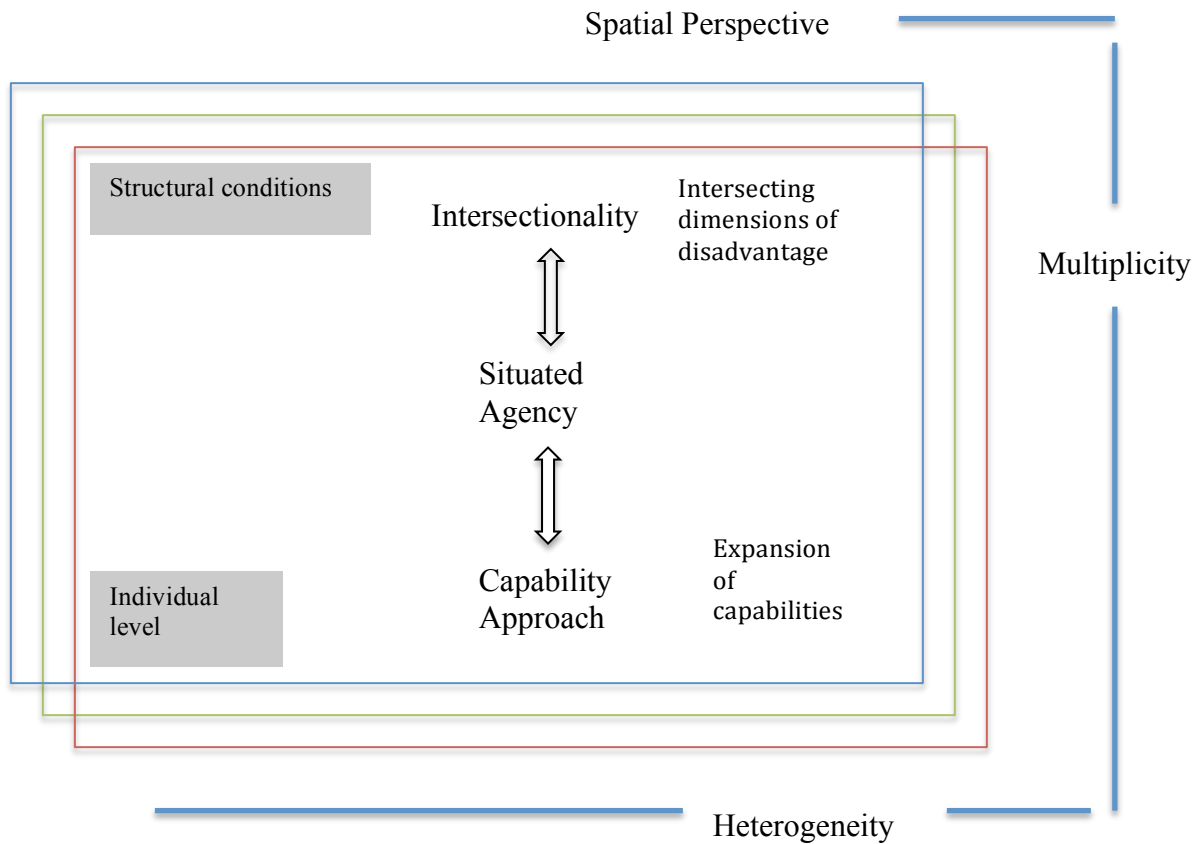
3.6 Conclusion

This chapter presented the three theoretical perspectives that will help answer the specific research questions and overarching question of this study. It has presented each theoretical perspective including the strengths and weaknesses, to show that one single perspective would not suffice to provide a holistic picture of the role of innovation hubs in development. Instead, a more comprehensive approach is proposed through the integration of the three theoretical perspectives at different levels.

As such, the first specific research question '*How should we conceptualise innovation for development?*' will be discussed through the application of Doreen Massey's conceptualisation of space.

The next research question '*What is the impact of innovation in human development?*' will be approached through the application of Amartya Sen's Capability Approach.

And finally, the third research question '*How does innovation for development acknowledge the various dimensions of inequality?*' will focus on a specific group within the individuals and will be approached by applying situated agency and intersectionality.

Now that the ideas and concepts have been presented, the next chapter will explain how I intend to answer such research questions.

CHAPTER 4
METHODOLOGY

4. Methodology chapter

4.1 Introduction and Outline

In this chapter, I present the methodology of this research. This chapter is separated into three sections. Section one will present a brief discussion of ontological and epistemological assumptions that guide the research process, followed by explaining the selection of an interpretivist approach as the guiding source of this study. I will then justify why a qualitative approach research was chosen, followed by the case study design. I finish this section by presenting the case study design and the research methods of semi-structured interviews and participant observation.

Section two will introduce an overview of the case studies. I will justify the selection process of these two case studies and will provide with an overview of each one, from the macro-context to innovation indicators to get a better idea of how the discourses around innovation are framed in each setting. This section also contains information on how I got access to both research settings and what I did during the fieldwork there.

Section three will finalise this chapter by introducing the data collection and analysis, which will focus on the process of the three publications of this thesis. As such, it will explain the publication process more specifically: how the papers were developed and the specific data analysis based on each theoretical perspective. This section finalises with the management of ethical concerns, and the process of reflexivity and positionality.

4.2 The Research Design

4.2.1 Ontological and Epistemological Assumptions

Academics carry out research depending on their beliefs about the nature of the social world, the nature of knowledge and how it can be acquired (Ritchie & Lewis 2003). In the conduct of scientific research, researchers are guided by the systems of belief by which they generate and interpret knowledge claims about reality (Myers 2009). These systems of belief can be defined by their answers to three sets of questions involving ontology, epistemology, and methodology (Guba & Lincoln 1994). As such, these paradigms shape the research, from the philosophical starting point to the methodological approach (Morse et al. 2001).

The ontology is concerned with the nature of reality and what there is to know about the world. As it refers to the assumption about the nature of the world, one seeks to answer '*what is the form and nature of reality and, therefore, what is there that can be known about it?*' In this respect, some can consider that there is an external reality independent from people's beliefs about or understanding of it, or that reality is noticeable through socially constructed meanings (Ritchie & Lewis 2003).

It is my view that what we know of the world is constructed by local and specific realities, that are sometimes shaped by social, political, economic, and philosophical values in society. As such, I believe that the realist ontology can inevitably lead research to fall into a set of context-free generalisations that advocate for a "true" state of affairs (Guba & Lincoln, 1994). I do not believe that there can ever be such a conclusion when conducting this kind of research, and instead I believe that what we know of the world should be understood as a set of various, multiple and dynamic constructions of the world that are experienced in a time and place by people or peoples who hold these constructions.

Once the ontology has been defined, another philosophical assumption is related to the underlying epistemology that shapes the research (Myers 2009). Epistemology is understood as the theory of knowledge, and it relates to ways of knowing and learning about the world, what forms the basis of this knowledge and how can knowledge be best attained (Ritchie & Lewis 2003). As such, knowledge can either be derived from the evidence collected from the world via 'induction' or

from logically-derived propositions or hypotheses which are then tested against the evidence collected from the world, a process known as 'deduction'. Authors have also acknowledged that the epistemology can combine these two different stances, given that there is no purely inductive or deductive process, as researchers cannot interpret data with a 'blank mind' as such (Blaikie 2009).

Epistemology, in this respect, can be positivist, critical or interpretive (Orlikowski & Baroudi 1991). The positivist epistemology sustains that knowledge is produced through careful observation (Denzin & Lincoln 2005), in which deductive reasoning is used to postulate possible models before data collection and inductive reasoning can be used after the data has been collected to generalise from empirical instances to general laws or theories (Ritchie & Lewis 2003).

Positivist research is the dominant form in most business and management disciplines (Myers 2009). What resulted from this is a number of studies and theories that propose prescriptive realities, failing to take into account the complexity of the world and phenomena. Given this, the positivist epistemology in organisational studies has been contested and debated, and there is now substantial literature that argues that the world is not as stable and factual as the positivist school postulates (Ritchie et al. 2013).

Another paradigm is the critical paradigm. This perspective of epistemology stems from critical theory. It is less popular in management studies, although its use has been increasing over time (Myers 2011). The critical paradigm embodies different ideologies such as postmodernism, neo-Marxism and feminism (Mack 2010). From this paradigm, not all interpretations of social reality have equal weight or relevance in our understanding of the world. As such, it is assumed that the current social conditions prevent the achievement of three main aspects of critical theory: enlightenment, justice and freedom (Myers 2013). Critical researchers are looking to transform society addressing inequality and injustice, and may look at aspects of society that are considered marginalised.

I share various aspects of the critical paradigm. I believe in the need to conduct research that helps make a better world, and provide necessary steps for this. From this paradigm, researchers are not just trying to describe from a particular perspective or set of values, but are trying to change the situation. However, I adopted an interpretivist standpoint to this study that is guided by normative views of the world (Capability Approach, Situated Agency, etc.). I believe that the phenomenon of innovation hubs is recent and before considering what change should be

proposed, there needs to be empirical data and analysis that could advance our understanding of the phenomena. This is why both the ontology and epistemology of this study are based in the interpretivist paradigm, presented below. Knowing that it is important to "understanding how practices and meanings are formed and informed by the language and tacit norms shared by humans working towards some shared goal" (Orlikowski & Baroudi 1991 p. 14), I present the interpretivist approach that guided this study.

4.2.2 Interpretivist approach

"Interpretivism covers a broad range of different phenomenological philosophical approaches (constructivism, symbolic interactionism, ethnomethodology, etc.) that are all loosely concerned with understanding social phenomena from the perspectives of those involved." (Edwards & Holland 2007 p. 16)

This school of thought places emphasis on human interpretation of the social world and the significance of people's and the researcher's interpretations of the phenomenon being studied (Ritchie et al. 2013). As mentioned in the quote above, the interpretivist approach gathers a number of different phenomenological and philosophical stances, all interested in the different perspectives of people involved in social phenomena. As such, interpretivist researchers focus on the complexity of a world that is accessed through social constructions, namely language, shared meanings, culture (Myers 2013). Related to this, interpretivist researchers focus on people's 'lived experiences' in a particular historical, cultural and social context (Dilthey, taken from Ritchie et al. 2013). Knowledge is produced by exploring and understanding the social world of the people being studied, focusing on their meanings and interpretations, as well as of the researcher's. The research process, therefore, is largely inductive (Ritchie et al. 2013).

The interpretivist paradigm recognises that "the meaning of a particular word depends upon its context within a sentence, paragraph, or culture. Without an understanding of this broader context it is imposible to understand the correct meaning of a single piece of data [...]. Similarly, then, the meaning of a social phenomenon depends upon its context, the context being the socially constructed reality of the people being studied" (Myers 2013 p. 40).

Following this paradigm, I share the belief that social reality is locally and specifically constructed (Guba & Lincoln 1994). Social reality (the general object of investigation) is mainly based on "people's definition of it" (Neuman 1997 p. 69), and constructed by social actors through their action and interactions (Orlikoswki & Barodi 1991).

Also, as Orlikowski & Baroudi (1991) explain, I consider that "people create and associate their own subjective and inter-subjective meanings as they interact with the world around them" (p. 5). Moreover, I also follow Geertz (1973) when he says that "What we call our data are really our own constructions of other people's constructions of what they and their compatriots are up to" (p. 9). For these reasons, I align my underlying epistemology with the interpretivist approach.

I do not share the belief that there is a factual account of events and situations out there. Instead, I am inclined to adopt a more constructivist understanding of phenomena. This is why I do not expect the findings of my study to be generalised to a population, but rather I intend to understand more in-depth a specific phenomenon and see whether my findings can build upon a relatively infant theoretical approach.

I consider that one of the advantages of this approach is that it enables participants to tell their stories, due to the close collaboration between the researcher and the participant (Crabtree & Miller 1999). It is because of this proximity that the researcher is able to understand the participant's actions and also their views of reality (Lather 1992). This has guided my research from its inception.

Furthermore, as I mentioned previously, I consider it is necessary to state that there are many aspects of the critical theory approach that I subscribe to. I recognise the value of observing the status quo and seeing whether there are some deep-seated, structural contradictions within a social phenomenon. I believe the world is full of assumptions, and that many of these we 'take for granted'. Therefore, this study has been framed to deconstruct the phenomenon of innovation for development and challenge certain patterns that are embedded in the discourses. Since interpretivists acknowledge truth as a relative concept that depends on one's perspective, I consider this the epistemological stance to better suit my focus as a researcher. However, as mentioned previously, it is also influenced by the critical approach in that I look at the structure and address issues of inequality in the phenomenon of hubs.

Therefore, this study's approach draws on interpretivist perspectives in which, instead of seeking an objective, transparent view of these settings, I use my own subjective experiences – often closely tied to the subjects studied – to generate intersubjective knowledge. In particular, I considered how my own status as an outsider in all research contexts might influence my accounts. This will be further discussed later in this chapter.

4.2.3   Qualitative Research

There is a broad consensus that when tackling social phenomena such as organisational forms, rich detail is essential to the research process. Qualitative methods are more useful when looking at the dynamics of how things operate (Ritchie & Lewis, 2003). The next section explains why a qualitative approach was selected for this study.

A qualitative research is a situated activity that locates the observer in the world and studies things in their natural setting, attempting to interpret phenomena (Denzin & Lincoln 2005). It is useful when studying social relations and is sensitive to the "pluralisation of life worlds" as denoted by (Flick 2009). In this respect, he explains that a good way to explain why a qualitative approach is more suitable is by presenting the limitations that quantitative approaches have in understanding social phenomena.

Denzin and Lincoln (2000) explain that traditionally in psychology and social sciences, the guiding principles for research looked to "clearly isolate causes and effects, to properly operationalize theoretical relations, to measure and to quantify phenomena, to create research designs allowing the **generalisation** of findings, and to formulate general laws" (p. 13). This also implied trying to make general statements of phenomena that were as independent as possible from concrete cases studied. Furthermore, this meant that the researcher's perspective should be isolated as much as possible. Objectivity, then, was expected from such experimental designs.

This view was transformed and evolved around the time that Max Weber proclaimed that science's task is the disenchantment of the world. What followed was the recognition that "Science no longer produces 'absolute truths', which can uncritically be adopted. It furnishes limited offers for interpretation, which reach further than everyday theories but can be used in practice comparatively flexibly" (Beck and Bon 1989 p.31; as cited in Flick 2009).

What resulted from this was the formulation of methods that were open to subjectivity and interpretation, the recognition of participant's perspectives and their diversity, as well as the reflexivity of the researcher. This also led to the increase of qualitative studies seeking to explore those dimensions.

Following this interpretation, this research is qualitative because it seeks to discover and develop new knowledge about the phenomena of innovation for development in a particular socio-historical moment in time. It seeks to place attention on the findings, which are grounded in empirical material rather than in theories already formulated in advance (Flick 2009). Furthermore, it looks at the phenomenon and starts from the subjective and social meanings

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related to it, thereby placing attention to the different knowledge and practices that were found. These are all features that would not be possible through a quantitative research design.

4.2.4   Case study Research design

Now that the ontology, epistemology and research approach have been presented, I will elaborate on why a case study design was selected as a suitable research method.

Case study is defined as:

> "1. an investigation of a contemporary, dynamic phenomenon and its emerging (rather than paradigmatic) body of knowledge […]

> 2. within the phenomenon's real-life context where the boundaries between the phenomenon and context under investigation are unclear […]

> 3. when explanation of causal links are too complex for survey or experimental methods […] so that single, clear outcomes are not possible[…];

> 4. using interviews, observation and other multiple sources of data. […]" (Perry 2001 p. 305).

According to Yin (2004), a case study design should be considered when the focus of the study is to answer 'how' and 'why' questions. Furthermore, case study design is also a suitable method when contextual conditions are relevant to the phenomenon. Both factors are of relevance to this study. My research questions (see section 1) are looking to understand 'how' and 'why' innovation is a mechanism for development. For these to be answered, what is needed are the perspectives of various participants involved in the phenomena, from different stances, because no single perspective can provide a full explanation of the research issue (Ritchie and Lewis 2003

p. 52). It is thus considered as the integration of different perspectives and needs to be holistic and comprehensive.

Moreover, the literature review provided the understanding that context and wider societal structures matter for innovation. And given the significance of innovation hubs in different parts of the world, these cannot be considered without the context in which they are embedded.

Given these two factors – what the research questions are formulating and the importance of the context – I have selected a case study design as the most suitable of the qualitative methods.

Case studies are categorised in many ways. For instance, Dul & Hak (2008) distinguish between a comparative case study, a parallel single case study and a serial single case study. In a comparative case study, a small number of cases in real-life context are analysed in a qualitative manner. In a parallel single case study, a number of single cases are selected at the same time and the same proposition is tested without taking into account the outcome of any of the separate tests. Finally, in a serial single case study, each test takes into account the outcome of previous tests.

The categorisation elaborated by Yin (2003) presents a simple and practical implementation. Yin categorises case studies as explanatory, exploratory or descriptive. An explanatory case study looks at the supposed causal links in real-life interventions. An exploratory is commonly used in situations where what is being evaluated has no clear, single set of outcomes. And a descriptive case study is used to describe an intervention or phenomenon and the real-life context in which it occurred.

Yin also differentiates between single- and multiple-case studies, although he explains that these are "two variants within the same methodological framework" (p. 53). With regard to multiple-case studies, Baxter and Jack (2008) summarise Yin's description of multiple-case studies:

> "A multiple case study enables the researcher to explore differences within and between cases. The goal is to replicate findings across cases. Because comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory (Yin 2003)" (p. 548).

With regard to choosing a single-case study or a multiple-case study, Yin (2003) asserts that multiple-case studies are beneficial to provide more detailed information on a specific subject.

Following this line of thought, initially my intention was to have one case study of the innovation hub in Zambia. I have been researching this hub since 2012, when I conducted my master's dissertation. But after doing a review of the literature, I noticed the strong emphasis that innovation has as stemming from the Global North, and how there was an imbalance in contrast with the Global South. I saw the limitations of continuing with this framing and considered it was necessary to include another case study of a hub based in the Global North. This is how the multiple-case study was selected as suitable to answer the research questions and provide sufficient data and analysis.

4.2.5   Research Methods

The concept of a 'mixed method' approach to research is often discussed in the context of combining qualitative and quantitative methods. But the same principles apply to using more than one qualitative method to carry out an investigation since each brings a particular kind of insight to a study.

A particular feature associated with case studies includes the use of multiple data collection methods (Creswell 2013; Hakim 2000). To develop the case studies, a mixture of interviews and participant observation was utilised. An ethnographically informed approach was developed by immersion in the research settings for over three months. Data gathering happened between January 2015 and April 2015.

Sampling decisions in the research process

Purposive sampling was applied while collecting the data. Purposive sampling is a way of selecting participants based on whether they have certain features that will enable an understanding of certain themes that the researcher is looking at (Ritchie & Lewis 2003). In this respect, interviewees were chosen in a way to ensure that there was a representation of members of the hubs, so different perspectives can be included.

Given that I wanted to obtain an inclusive approach, I categorised members based on a range of criteria so that I had a representation of the whole universe of members. The starting point was the level of attendance at the hub. Individuals were selected based on how often they attended the hub to have different perceptions of the hub based on level of engagement. My time conducting

participant observation allowed me to see which members attended more frequently than others. This followed with a demographic criterion based on gender and age. I looked at having an equal number of males and females, as well as people from all age ranges. To achieve this, I asked participants to point at other people that fitted the demographic criteria, assimilating a snowball sampling approach.

The following table presents an example of how some participants were sampled in the Lusaka hub. Their original names have been changed:

Table 2: Example of Sampling Criteria

Sub-Categories	Strongly linked to hub	Not too strongly linked to hub
Female, age range (16 – 25)	Ronda (project manager)	Elizabeth (co-founder of Women's Network. She is currently working outside hub and so only attends sporadically)
Female, age range (26 – more)	Diana (hub member) She attends the hub almost on a daily basis.	Susan (founder of Global Game Jam)
Male, age range (16 – 25)	Gary (community host)	Frank (learned most of his ICT skills at the hub)
Male, age range (26 –more)	Claudio (co-founder) Robert (co-founder)	

Semi-structured Interviews

Breakdown of interviews

Lusaka hub

Table 3: Lusaka hub breakdown of interviews

Interviewees	Time length	Gender	Age
Silvana	29:56	Female	23
Luke	32:01	Male	32
Joseph	20:33	Male	28
Gold	28:26	Male	26
Johana	20:44	Female	22
Kevin	32:02	Male	26
Patricia	10:13	Female	21
Ronda	35:57	Female	26
Seth	1:04:04	Male	31
Charlie	20:32	Male	27
Zion	12:47	Male	23
Catherine	30:26	Female	30
AJ	12:29	Male	18
Nicolas	19:06	Male	24

Cown	13:10	Male	22
Karl	22:49	Male	22
Elias	41:19	Male	23
Vincent	13:33	Male	32
Mariani	33:10	Female	24
Chizite	12:44	Female	21
Charlotte	28:22	Female	20
Timothy	28:26	Male	28
Darius	34:55	Male	26
Pafya	35:54	Female	22
Jack	22:49	Male	23
Chimoi	14:49	Male	30
Kite	42:22	Male	35
Mich	37:18	Male	29

London hub

Table 4: London hub breakdown of interviews

Interviewees	Time length	Gender	Age
Rochdale	27:25	Male	31
Mark	1:04:14	Male	28
Adrian	58:12	Male	30

Melanie	18:19	Female	29
Diana	27:50	Female	40
Faucett	22:44	Female	36
Sofia	46:39	Female	38
Ann Marie	18:39	Female	28
Charlize	17:50	Female	30
Abbie	22:51	Female	28
Gaby	17:22	Female	37
Mariani	41:24	Female	27

The objective of conducting interviews in this research was to have a better understanding of the organisations' own framing and self-description, in order to drill down into underlying assumptions, goals, and practices of members.

Individual interviews are probably the most widely used method in qualitative research (Ritchie & Lewis 2003). An interview involves a personal exchange of information between an interviewer and one interviewee to obtain specific information on a topic with the cooperation of the interviewees (Baker 2003 p. 219). They provide an opportunity for detailed investigation of people's personal perspectives and for very detailed subject coverage (Ritchie & Lewis 2003).

Semi-structured interviews usually have an incomplete script, in order to leave the researcher with the need to improvise during the conversation with the interviewee (Myers & Newman 2007).

In-depth interviews should combine structure with flexibility, be interactive in nature and, to some extent, achieve both breadth of coverage across key issues and depth of coverage within each (Ritchie & Lewis 2003). The structure should be sufficiently flexible so as to allow topics to emerge from the conversation, which is why it needs to be as interactive as possible. To achieve this, I elaborated a number of questions that were based on the literature review, but these serve

more as a reference than a fixed guide of questions. The questions differed depending on whether the participant was strongly associated with the hub (i.e. attends the hub on a daily basis, is working with or for the hub; is part of the management team); or not strongly associated with the hub (i.e. attended the hub on a fortnight; attended only events; used to attend the hub but not anymore).

Interviews generally started with more general questions about the participant's background and interests. From these, I followed with questions about their experience in the hub and their perception of it. The conversations then progressed to questions more related to their work and the impact they were trying to achieve. Where relevant, participants were asked why their interest evolved around the social impact or the economic one.

Questions also evolved around the day-to-day practices around the hub and whether there was any difference with previous work experiences.

According to Mishler (1986), when conducting interviews the "critical issue is not the determination of one singular and absolute truth' but the assessment of the relative plausibility of an interpretation when compared with other specific and potentially plausible alternative interpretations" (p. 112). This implies recognising the social and linguistic complexities of interviews as sources of bias (Alvesson & Mats 2011). It was therefore relevant to understand that these conversations gathered insights into members' perceptions, rather than taking them as facts. This is why it was important to recognise that, for instance, members that were strongly associated with the hub would have a more positive view of the organisation, and members that were not strongly associated with the hub would sometimes draw on more critical accounts. The objective was not, however, to prove whether they were right or wrong, but to recognise the multiple interpretations of one same organisation, in one same context and a same period of time.

Following the interpretivist paradigm, the in-depth interview position of this research is what Kvale (1996) labels as the "traveler metaphor", where the interviewer embarks on a journey 'travel' where stories are developed as the traveller interprets them. In this respect, knowledge is not given, but created or negotiated (Ritchie & Lewis 2003). With the influence of constructivism and feminism, in-depth interviews have also been considered more of a collaborative process between researcher and participant. Moreover, feminist research approaches have also added a layer of complexity by proposing a more horizontal, non-hierarchical approach to interviewing. This is combined with the recognition that researchers ought to give voice to those who have been

commonly unheard in social research science, like women, for instance (Edwards & Holland 2007).

I attempted to adopt this horizontal and inclusive approach to my interviews by assimilating a 'conversation' approach with participants. In both case studies, participants have had a previous contact or interaction with me. In the UK hub, I started conducting interviews only after three months of the observation. There is one exception to this and is in relation to the female entrepreneurs. Given that I was not able to identify many female entrepreneurs during the observation, I requested permission to send an email to the hub mailing list to request some interviews. Some of the female members met me the same day of the interview. However, I followed with an email of the summary of our conversation to ensure I grasped their main thoughts and ideas.

Given that the majority of participants were entrepreneurs and were leading their own businesses or projects, time was a limited resource. In several cases, I had to arrange interviews weeks in advance, and when conducting the interviews I had to be aware of their time limits. This is why I also relied on many of the conversations I had during my time observing the hub. An average interview lasted between 30 and 45 minutes. The longest interview lasted 1 hour and 4 minutes and the shortest 10:33 minutes.

In the Zambia hub, given the time constraints, I started conducting interviews two weeks after I initiated the observation. Nevertheless, many of the Zambian participants knew me from the time I conducted my master's dissertation in 2012, so there was already a level of familiarity. Like with the London case, many of the interviewees had time constraints, and so interviews lasted an average of 30 – 45 minutes. I also interviewed two hub managers in two different moments so that we could expand on our conversations.

Participant Observation

Participant observation is a data collection process in which the researcher joins the constituent study population or its organisational or community setting to record actions, interactions or events that occur. This not only allows phenomena to be studied as they arise, but also offers the researcher the opportunity to gain additional insights through experiencing the phenomena for themselves. This method is integral to anthropological and ethnographic research because it provides "direct experiential and observational access to the insiders' world of meaning" (Ljorgensen 1989 p.15).

This method is inherently a qualitative and interactive experience and somewhat unstructured. It is generally associated with why questions, causal explanations, and with uncovering the elements, rules, and norms that underlie the observable behaviours (Guest et al. 2013).

Evidently, participant observation is not 'an impartial window into the motivations and rationales of activists and their practices. It is inevitably influenced by our relations with the research subjects and our interpretations of what we observe.' (McCurdy & Uldam 2013). In this respect, it has a lot of similarities with other research methods like Action Research. This method is normally used where results are seen as an important outcome of the research. Researchers applying this method look to test their theories and interventions by applying them to solving actual problems.

Although it slightly differs from participant observation in that it seeks to actively have an influence on the context in which it is intervening, there are some similarities and nuances, particularly in regards to the interactions with participants and the degree to which these interactions may affect any type of outcome in the process, even though is not deliberate.

As such, participant observation involves a constant reflective process to understand how the daily interactions with people in the research setting may affect a decision or idea of those involved. It also involves recognizing the role of the researcher as an active participant in the study. Trying to distance oneself from changing the outcome of the research is a practice that would be problematic. Instead, embracing the possibility that one's actions or just being there may affect the outcome and as such it involves constant reflection and reminding the objective of the research becomes necessary.

In this research, although recognising the similarities, I selected participant observation as a main method because my approach was more exploratory. Notwithstanding, I recognise the close relation between participant observation and action research in affecting the reality in which the study is being conducted.

Participant observation was applied by visiting both hubs for a period of at least three months. The goal of this method was to see the dynamics within the hub on a daily bases, to have a better understanding of how the hub operates and how members interact with each other. This was the first method used to identify those members who attended the hubs on a regularly bases, and later interview them.

Furthermore, I cross-reference with semi-structured interviews to see whether what is promoted and incentivised by the managers is applied and/or used by the members.

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The following table presents the references I developed when conducting participant observation:

Table 5: Criteria for participant observation

First level	Second level
What is happening inside a hub? What are the dynamics? What do members do? How is the space conformed? Is there space for privacy? Does the space enable collaboration between members of one same organisation and from other organisations?	Are members collaborating? Are people discussing or working on something together? Or are people with their headphones, looking at their laptop screens most of the time? Are members embarking on socially oriented projects? Do they discuss their projects with other members of the hub? What is the gender ratio? Race ratio? Does it look like people from different socio-demographic backgrounds are being part of the hub?

Research Diary

In qualitative research studies, a research diary is considered quite beneficial, especially when writing out the cases (Newbury & Stanley 2001). This approach is subjective, as the observations and findings reflect strongly on the researcher's personal presence. It aligns with the understanding that researchers have values that should be consciously acknowledged in his or her research, instead of attempting to control them through "method bracketing assumptions" (Ortlipp 2008). This goes in concordance with the interpretivist view that this research has adopted.

The research diary attempts to capture the "real inner drama" of research "with its intuitive base, its halting time-line, and its extensive recycling of concepts and perspectives" (Bargar & Duncan cited in Marshall & Rossman 1995 p. 15). According to Newbury & Stanley (2001), keeping a research diary may facilitate the research process through recording observations, thoughts and

questions as they happen, for later use by the researcher, and to stimulate reflective thinking about the research.

I kept a reflective research diary where I made daily notes when in the field. This counted as a 'data source', which means that I treated its contents as confidential and used pseudonyms instead of people's real names. I kept the research diary from the beginning of the observation phase of this research, and continued throughout the research process until the end.

Two research diaries were completed, one for each case study. I did not transcribe all of the notes taken in the research diaries; however, I did transcribe the main points that helped understand some key ideas stemming from the interviews.

4.3   Overview of Case Studies

The objective of this section is to present an overview of both research contexts and case studies. The focus will be on specific things of the context that are somehow related to the phenomena and then on the hub organisation. The aim is to present an overview of the context in which both hubs are embedded, which will be important to understand how context shapes dynamics happening within hubs.

This chapter is divided as follows: the first section will focus on the reasoning behind the case study selection, followed by the introduction of the two case studies, which I name as the London innovation hub and the Lusaka innovation hub. In both cases I will start by presenting the macro-context, giving attention to the country's development indicators. It will then focus on macro-indicators that illustrate the capacity and possibility to innovate in the country. Then I will describe the story of the hub, from its creation to the workspace where the research took place. I will finish each section by explaining how I got access to these hubs. In this section, I explain how I selected the two organisations and got access to the two case studies. This section is relevant because it helps explain how I was able to obtain the detail of data presented in this thesis. It also helps explain the long-term approach I implemented, since I have been somehow connected to these hubs since 2012 and continue my relations with members and managers of both hubs until today.

4.3.1 Why innovation hubs

As mentioned previously, innovation hubs have been spreading throughout the world in the past 10 years, to a point where we can now count over a hundred in Africa and around 200 in Southeast Asia (excluding India) (Du Boucher 2016). Their flexible structure and collaborative ethos encompasses different types of organisations, like labs, coworking spaces, incubators and accelerators (Sambuli & Whitt 2017).

From the vast amount of hubs, there is one particular type that this research is interested in: the socially-oriented hubs, which are hubs that gather resources and people who want to innovate to improve social problems. In some cases, these can be local problems faced by people in their communities. In others it can be initiatives based on other parts of the world. But the main focus of such hubs is to provide a space, a community and resources for people who are looking to have a positive impact in the world.

In the majority of cases, these hubs are usually funded by international organisations, like the European Union, the GIZ but also by development organisations like infoDev, Hivos, and DFID. The main interest of such organisations funding hubs is that they will drive economic development (Kelly and Firestone 2016).

More specifically, these organisations gather entrepreneurs and innovators who will create local solutions for local people, and ultimately strengthen an innovation ecosystem with jobs for young people. There are high hopes invested in certain regions that envision in technology, innovation and entrepreneurship a way to leap towards the so desired development (GIZ 2015).

These factors are part of what constitutes the innovation for development discourse (Friederici forthcoming). They represent organisations that will help solve social problems, will help create jobs and have a positive impact in the economy. Innovation then represents a mechanism for development with vast impact.

There are a number of advantages and disadvantages for studying hubs as part of an innovation for development discourse. In terms of advantages, is possible to learn about a particular organisation rather than a technology or project, which potentially has a timeframe. This allows us to focus more on the dynamics within the organisation, rather than the success or lack of success of an innovation.

Furthermore, hubs also adopt an open-ended model to test and make changes, this involves constant negotiations between funders and members who are doing the ground work. This

encounter between top-down (funders) and bottom-up (members and hub managers) actors provides a unique point of analysis of the innovation for development discourse.

Finally, hubs gather a good number of people and so it is possible to get insights from more people. And because in this research what matters is the people involved in the process, then hubs provide a space where their interactions and narratives could be observed.

In terms of disadvantages, it does involve methodological issues, specially with regards to definitions and unclear terminology. As mentioned previously, hubs can be easily confused with incubators or accelerators, which focus mainly in building successful ventures. In some cases this can cause confusion, specially with international organisations who may mix both types of organisations. This is not because of the inherent aspect of the phenomena, it is because it is still unexplored and as such, it is difficult to find robust definitions.

Moreover, the focus on the hub as a unit of analysis and not in say the specific innovations happening within the hub can also be a point of confusion. Such a view could lead to ask 'why focus on hubs if what is important is what is happening inside the hubs?' The difference between the organisation and the products being developed within the organisation could also cause some potential confusion.

Despite the disadvantages, the innovation hub phenomenon holds many more aspects that embody the innovation for development discourse and because they are relatively unexplored, they represent an interesting and suitable case to study.

4.3.2   Why from the Global North and Global South

Moreover, as mentioned previously, the overall conceptual framework of this study involves looking at the context in which the phenomenon is embedded. The theoretical perspectives proposed in this study include the Capability Approach view of development, Doreen Massey's conceptualisation of space and situated agency developed by feminist scholars.

These three perspectives inevitably drive an understanding of going beyond the traditional developed-developing dichotomies that are so mainstream in development. For instance, Doreen Massey's conceptualisation of space places strong emphasis on breaking the power geometries that frame innovation stemming from the Global North as the norm and the Global South as an after-thought, catching-up space. As such, it highlights the need to move beyond such frameworks to accept multiplicity of narratives that have been ignored previously in mainstream discourses. Massey (2007) states:

"For this understanding of regional inequality to be challenged it needs to be contested by another geography. Such geography would bring those 'other regions' back into view by recognising them in their own rights as locations of their own trajectories […]" (p. 116).

Furthermore, the Capability Approach proposes a multidimensional view of development, and argues that from this perspective, all countries are still developing in one dimension or more. As such, the developed-developing dichotomy should be contested with empirical data that shows how such power geometries should change and how they are shaping our understanding of an unequal world. In this respect, these theoretical perspectives led me to consider that the case study selection required at least one case study in the Global South and one in the Global North, with the intention to recognise them as a part of a constellation of hubs that are simultaneously taking shape.

The starting point was to draw on empirical data from two case studies, located in two different parts of the world. What followed then was an exploration of both settings in relation to the research questions.

Although I draw comparisons between both cases, I do not consider this a comparative study per se, but more as a study that has been informed by a comparative design. That is, I seek for both hubs to have similar characteristics in terms of how they are framed and what they intend to achieve, but I do not seek to make a judgment on which one is better. Nor do I intend to present one single narrative that should be taken into account. I draw on both case studies to interpret how they are embedded in different contexts that shape their day-to-day practices. I recognise the limitations and advantages as situated in a time-place boundary. As such, I do not seek to propose prescriptive ways in which hubs should act, but instead I suggest a further consideration of the wider institutional dimensions in each case study.

Given that this stage of the research was framed as an exploration, it would have been difficult to evaluate what set of criteria would be necessary for comparison. As such, the multiple-case study remains the most suitable design because of the flexibility and adaptability it provides, in contrast with comparative studies which involve a specific set of criteria to draw the comparisons.

As mentioned previously, it was important in this research to select innovation hubs operating in the Global North and in the Global South, in order to present empirical data that can help explain how context shapes interactions, experiences and practices, and to break the power geometry that places the Global South as a follower and adopter in terms of innovation.

As such, what was needed was to look at two organisations (one from the Global North and one from the Global South) that self-defined themselves as innovation hubs, with similar characteristics and values. Because the focus of this study is on development, I specifically looked for innovation hubs that are working on social innovation, that is, are looking to enable an environment that can help develop new ideas and products that seek to have a positive impact in their context.

I searched online for different hubs with such characteristics, and I asked colleagues who knew of the subject to recommend hub names. After some time searching, I contacted different hubs in the UK and found that the selected one fitted the criteria needed, and was interested in my research. The same process applied with the innovation hub in Zambia, although I had previously been in contact with them from my master's dissertation. I conducted an online search to see any other hubs in the Global South that had the same characteristics and decided that the Zambian hub was the most suitable example of an innovation hub working on social innovation related work.

4.3.3 Innovation hub in London

Located in the Northern Hemisphere, the United Kingdom is an OECD high-income country. It is ranked 16th out of 185 countries in the Human Development Index 2014, thus belonging to the Very High Human Development category. The capital of the United Kingdom and its largest city is London, a global city and financial centre with an urban area population of 10.3 million, the fourth largest in Europe.

London is located at the epicentre of the global power structure (Massey 2007). A capital of neoliberal governance, London has been described as "a crucial node in the production of an increasingly unequal world" (ibid p. 8). Doreen Massey describes London:

> "For London is not only multicultural. It is also – for instance – a heartland of the production, command and propagation of what we have come to call neoliberal globalisation. Indeed it was in London that many of its lineaments were first conceived. The City (capital C), and all the vast and intricate cultural and economic infrastructure that surrounds it, is crucial to neoliberalism." (Massey 2006 p.65)

Innovation indicators

Overall, the UK shows very high ranks for innovation and entrepreneurship. The World Bank's *Doing Business Report* 2017 is an annual report on the state of health of various economies, based on detailed diagnostics of their underlying and embedded characteristics, such as regulatory systems and business governance. In 2017, the UK ranked 16th. The Global Entrepreneurship Index (GEI) looks at the entrepreneurial ecosystem of a country. It combines individual data — attitudes, abilities and aspirations — with institutional components — social and economic infrastructure (Drouillard 2017). In 2017, The UK ranked 3rd out of 137 countries, showing high levels of entrepreneurship. Furthermore, the Global Innovation Index aims to capture a country's innovation capacity by looking at two main sub-indices — the Innovation Input Sub-Index and the Innovation Output Sub-Index — each built around key pillars. In 2016, the UK ranked 3rd out of 128 countries.

These indicators show that the overall context in which this hub is embedded is one suitable and promising for innovation.

The hub

This innovation hub was founded in 2005. As of today, it has transformed into a franchise, with over 80 hubs with over 13,000 members worldwide, with headquarters in Vienna. The idea of this hub emerged in the wake of the anti-globalisation movement that arose at the turn of the millennium (Bachmann 2014). It sought to gather Londoners with a desire to "[…] work to tackle pressing world problems". As such, people looking to find alternative career paths did not have a place to fulfil their ideas. In this respect, the co-founders were looking for a space where people with different backgrounds and skills could work. In a profile written about one of the co-founders:

"Those who had decided to dedicate their lives to new ways of confronting the world's issues were having to do so from their bedrooms; there was no space for them to find the resources they needed for their project, nor to meet and share with other like-minded people in the same situation" (internal document)

The first hub was founded in Islington, a district located in the North London area. Soon after that other hub workspaces started opening across London and in other parts of the world. It represents a space for people, mostly entrepreneurs and freelancers who want to work on specific projects or create startups, normally with a social component. At a very basic level, the hub offers a number of services (coworking, incubation, scaling) and provides a set of resources (internet, teas and coffees). At a more complex level, the hub provides a network of people and contacts for members to connect with. Furthermore, the hub is also established as a space for a community of people, to feel a sense of belonging and shared goals.

In 2014, Michelle Bachmann wrote: "If there's one thread that runs through the history of the Hub, it's the fundamentally *collaborative* nature of the organization" (p. 22). Consequently, the main objective of the hub is to create local collaborative communities that are bringing about social change[13].

Bachmann labelled the practices within the hub with a phrase that still holds some form of popularity for hub members and enthusiasts when he described the hub as a place *"where unlikely allies would meet by serendipity"* (p. 23). This phrase became so important that 'Unlikely Allies' then became the name of an annual event that gathers hub members from all over the world.

The specific hub that was part of this research is located in the King's Cross area in London. The website provides a description that highlights the importance of both collaboration and community as values adjacent to the hub: "We are part of a global network of connected communities that enable collaborative ventures" (internal document). Thus both the organisation's structure and the physical space have been designed with these values in mind.

For example, the workspace contains open space areas, with leafy shape tables, high ceilings, glass doors, relaxed social areas and an open kitchen, and designated meeting rooms for hire. There are three different levels of the workspace: a first level with open workspace with no assigned seating, a second level with meeting rooms and a third level with more tables. Plate 1 shows an example of the third level, which is an open office space area for people to sit anywhere to work. In this same level there is a small area in a corner for members to have private conversations, as shown in Plate 4.

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[13] Top Global Coworking Chains in the World. Accessed in http://www.startupblink.com/blog/653-2/

Plate 1
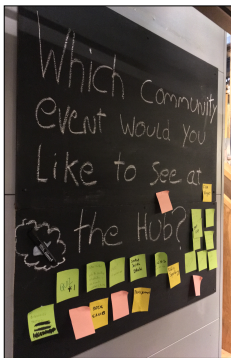
Plate 2

Plate 3

Plate 4

Plate 5

Plate 1: Image created by the hub managers to promote values expected for members.

Plate 2: Blackboard for interaction for hub community.

Plate 3: Signage establishing order and structure in the hub.

Plate 4: Private area for members

Plate 5: Open office space located in the top level of the hub.

The hub managers also attempted to encourage the development of a community of people, instead of just members attending to use the space. They used the space as well as the mailing list and online system to engage with members. They organised social events on a weekly basis to provide a space for members to connect. Plate 2 shows a blackboard where hub managers post questions for the hub members, who then reply on Post-its. Plate 1 shows an image that represents the ideal hub member. This image was designed by hub managers and is located in the kitchen area. One of the characteristics is that he is active in the community.

The hub organised a series of events on a weekly basis. Some hosted by the same hub managers, others hosted by other organisations that wanted to make use of the space.

Access to the hub

In 2012, I was searching for an innovation hub in the UK with a strong focus on socially oriented innovation. There are a great number of hubs in London, but the majority of these did not have a social approach. Soon I was told that this hub matched that approach. I got in touch with the co-founder of this organisation to learn more about them and he invited me to visit the hub in 2012 and hold a short interview. After that, I maintained contact with him for two more informal conversations[14]. There was a possibility for me to start conducting my research and getting access through the co-founder, but I thought this would imply a top-down effect that would not be beneficial for what I was trying to do, which was establish strong relations with managers and members through an ethnographically informed approach.

By 2014, I saw there was an invitation to become a member host. This was a new initiative by the hub, through which they offered membership in exchange for hosting one evening a week. A member host had to be in charge of the space from 5:30 to 9:30pm. They had to clean the kitchen space, use the dishwasher, do the cash-in of the daily sales, clear the meeting rooms and lock up the hub for the night. Furthermore, whenever there was an event, they had the additional responsibilities of arranging the space, liaising with event participants and cleaning up afterwards.

In exchange for this work, host members had access to the hub for 50 hours a month, with all benefits of being a Hub50 member (complimentary tea and coffee, access to the online platform and a newsletter). I applied for this position and explained that I was a PhD researcher interested in exploring more about the hub. I explained my interest was to become an evening host to be part of the network and explore the space to see the day-to-day dynamics. I also explained I was interested in writing research diaries of what I observed and asked some members for interviews. I clarified my identity was always going to be transparent; everybody that saw me or talked to me would know I am doing a PhD on hubs. I got approval from management and was accepted, and I have been an evening host from July 2014 until now, except for when I conducted fieldwork in Zambia and when I did the internship at the UN organisation. Data gathering happened between August 2014 and November 2014.

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[14] The co-founder was always keen to have conversations, but he preferred a more flexible format. Our conversations were never recorded, but I was allowed to make notes during these.

4.3.4 Innovation hub in Lusaka

The Republic of Zambia is ranked 139th out of 187 countries in the Human Development Index 2014. This puts it in the category of countries with medium human development. Once a British colony, Zambia became an independent state in 1964. Despite strong efforts to advance human development straight after independence, the economy declined further in the mid-1970s as a result of the 1973 oil crisis (Daka & Toivanen 2014).

Zambia then undertook a series of interventions around the 1980s and 1990s, guided by the structural adjustment programmes proposed by the International Monetary Fund (Simutanyi 1996). This included an aggressive privatisation programme that led to some damaging consequences in the country. Around this time, Zambia also partook in aid and development interventions that were encouraged and promoted by the West, thereby maintaining a similar geopolitical power as in colonial times (Moyo 2009). The Zambian economy is mostly reliant on agriculture and copper mining. The country is affected by deprivation and poor infrastructure, especially in rural areas; however, literacy levels are around 85% and 90% among the adult population (PANOS 2011).

It has been recorded that by 1990s the Zambian government started realising the need to start exploring the means to embed science, technology and innovation programmes into the national development agenda with various developmental programmes (Siame 2007 p. 43).

It has been suggested that the lack of an effective national science and technology policy has led to the country's poor economic performance. Daka and Toivanen (2014) provide a comprehensive analysis of Zambia's 2009 policy on science, technology and innovation, which replaces the first policy prepared in 1996. For the authors, although the 2009 policy recognises the importance of providing incentives to facilitate technology diffusion, transfer, innovation and commercialisation, it does not explicitly outline how this will be developed in the long-term. Furthermore, they highlight that one of the biggest challenges to achieve all the goals established in the policy is the lack of financial instruments to facilitate the process. The authors consider that the lack of strong guidance and implementation of science, technology and innovation is keeping Zambia a relatively poor country.

Innovation indicators

Zambia shows relatively low levels for innovation and entrepreneurship. Following the indicators applied for the UK description, we can see that Zambia ranks 105 in The World Bank's Ease of Doing Business; it ranks 96th out of 137 countries in the Global Entrepreneurship Index 2017. Zambia also ranks 125th out of 128 countries in the Global Innovation Index 2016. This means that in terms of the innovation outputs and inputs, Zambia presents very low values. More specific indicators include 'Patent applications by origin', which constitutes the number of resident patent applications filed at a national or regional patent office, where Zambia ranks 92th in the world. In terms of 'Scientific and technical publications', which refers to the number of scientific and technical journal articles, Zambia ranks 96th. And in 'Joint venture/strategic alliance deals', which refers to Thomson Reuters data on joint ventures/strategic alliances deals, Zambia ranks 105th in the world.

Overall, these indicators describe a context that is not necessarily promising nor suitable for innovation in the form of patents, scientific publications, or innovation linkages, to name a few examples.

The hub

The Zambian innovation hub was founded in 2011 and is the only hub of its nature in the country. Two employees of a Belgium development cooperation agency were implementing a project that consisted of fixing old computers to deliver to colleges in Lusaka. For this, they recruited young technologists to work as interns, focusing mainly on adapting the hardware to the content of an electronic library that would provide support to teachers and students. From my conversations with them I found out that these interns had recently finished their IT training in local colleges and universities and constitute the first members of the hub.

Two of the hub co-founders have a background in information technology and for years focused on working in software development. When the interns were gathered they realised that there was a community of people interested in getting together and learning more about technology, because they felt that the knowledge they received at colleges or universities was insufficient. Consequently, they decided to train these young interns on what their previous education did not succeed in doing: the practical aspects of learning. It began as an informal group of young people

wanting to improve their skills and learn coding languages. Soon, their community got bigger and with that, they had to move from a small room to a bigger space. With this change, they also adapted their organisation model, by developing organisational values and vision strategy. This led to changing the hub from just a community of technologists and programmers to including entrepreneurs. The hub is now a space for entrepreneurs and innovators to connect, collaborate and work on their projects to turn them into viable business models.

The hub presents itself as an organisation that fosters a 'community' and holds values of 'collaboration', and 'sustainability'. In alignment with this, the hub was established as 'a social enterprise that contributes to local social and economic development.' Furthermore, the organisation's vision is 'To foster a vibrant entrepreneurship community in Zambia'(Website).

In the interviews, managers described the hub as a very flexible organisation structure; they started very small and eventually started growing but without a real, formal plan. They decided to have an 'experiment-trial' strategy, which meant that every year or so they would re-assess their plan and change if needed. It was never in their plans to scale up to a big organisation, but to continue supporting their members in the best way possible.

The hub organisation is not very structured. For instance, a group of members were interested in fashion, and felt that the fashion industry in Zambia had great potential but lacked a platform to expand it. The hub then took the initiative and organised a fashion event with other partners. This was possible due to the hub's open-ended philosophy: they would experiment with different issues and not close themselves to any proposal made by the members.

Plate 6

Plate 7

Plate 8

Plate 9

Plate 6: Community event. Using the wall as projector.

Plate 7: Outside the hub.

Plate 8: Community working.

Plate 9: Community of robotics using one of the workspaces

Access to the hub

The first time I got access to the hub in Lusaka was when I was conducting my masters' dissertation. I was searching for a hub with a focus on socially oriented innovation to understand more about how innovations were being diffused and translated (Latour 2007). I did a brief mapping of hubs in sub-Saharan Africa, given their recent spread and attention by research organisations. A number of hubs fitted the criteria, but in 2011, my friend and colleague, Tony Roberts, was conducting his PhD research with a network of women in technology, which was

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conceived and hosted by the hub. This hub fitted all the criteria: it was an innovation hub focusing on work that had a positive impact in the local community.

Tony introduced me to the managers of this hub and I visited in 2012 for a period of three weeks. During this fieldwork, I conducted semi-structured interviews as well as participant observation. I managed to establish strong connections with members and founders of the hub. I maintained these connections throughout the end of 2012, 2013, and 2014, when I proposed the possibility of extending my research to include this hub as a case study. By that time, the hub had increased its membership and moved to a bigger location, and yet the managers and members I met in 2012 were still there.

4.4 Data Analysis

As mentioned previously, this study followed an alternative thesis mode, which involves the development of publications submitted to journals or conference proceedings. For the development of each publication, I read literature, developed themes around the phenomena, and submitted to different conference proceedings and journals. This resulted in three papers, with one theoretical perspective each, that looked at the same phenomena of innovation hubs. Methodologically this meant that the data coding followed the same process but different theoretical perspectives applied in each paper guided the analysis. This section starts by presenting the process of each publication, from inception to analysis and publication outlet.

4.4.1 Paper 1: Capability Approach

I had decided at the beginning of this study that it was important for me to evaluate and identify what definition of development was aligned with my own values and perceptions of the world. My review of all theories and approaches to development led me to decide that the most appropriate approach for this study was the Human Development perspective, guided by Amartya Sen's Capability Approach. This is because the Capability Approach is holistic, puts people at the centre and focuses on more than just income. As such, normative perspective was chosen more deductively.

The objective of this part of the research was to see whether Human Development was occurring within the hub. As such, it involved identifying what people valued by being part of the hub and seeing whether certain capabilities had been expanded. The starting point of inquiry was therefore

focused on what people valued (Kleine, 2013), but given that a semi-structured interview method was selected, these served more as a reference than a fixed guide of questions (see Appendix 2).

Data analysis involved an inductive process that was informed by the theoretical lenses of the Capability Approach. As such, it focused on values, functionings and choices available to individuals by being part of the hub. More specifically, in this part of the analysis I focused on what members had to say with regard to what they value about their experience in the hub, and whether and how their life opportunities had been enhanced.

A previous version of the paper was presented at the European Conference on Information Systems (ECIS), in the track of information systems in developing countries. After that, together with my supervisor we decided to submit the paper to the Journal of Information Technology for Development, because this journal addresses global issues around innovation and technology and has published several papers adopting the Capability Approach. We transformed the paper so that it provided a stronger theoretical analysis and contribution.

4.4.2   Paper 2: Spatial Perspective

At initial stages of data gathering, it was evident to me that some issues were stemming from the data in a more inductive way. It was also evident that the Capability Approach alone was insufficient to interpret these issues. For instance, during the fieldwork in Zambia, the hub managers were applying to become part of a franchise of innovation hubs that started in London. As mentioned previously, I was visiting the hub in London as a member host because I was interested in the Global North-Global South perspective. The expansion of the hub's franchise meant that African hubs would adopt the name, logo and organisational structure and become part of the global network. In exchange, they had to give an amount from the annual revenue.

As part of this, hub managers had meetings, conducted market research and explored potential partnerships in case the application was successful. As part of the market research, hub managers realised that the amount requested would imply that the hub would lose revenue significantly, and so very quickly decided not to continue the process. From my conversations with hub managers, I wondered why they thought it was important to be part of the Western hub if they had already a good business model and had positioned themselves as an important hub in their context. I got the impression that there was a sense that because this other hub had a bigger name within the hub phenomena, it would be convenient for them to become part of the network.

This, combined with the literature review on innovation, led me to the understanding that there were some Global North-Global South imbalances. I thought this was an important narrative to get a holistic idea of the impact of innovation hubs in Human Development. I realised that the Capability Approach would not be able to give me this account, so I decided to adopt Doreen Massey's conceptualisation of space as a way to interpret and make sense of this.

At this stage of the research I was looking to understand how these two hubs could be part of the global phenomena and what was visible on the day-to-day practices. This did not follow a comparative research design, although it did see how values of collaboration and community took shape in each space setting.

The analysis was focused on how values of collaboration and community took place. The starting point was members' practices, whether I could see these values taking shape. As such, I looked at whether members worked together on projects, or bounced ideas around.

What then followed was asking them about these values. It was important to see not only whether they recognised these values existed, but whether they perceived them as important for their work and their experience at the hub. As such, data analysis focused on these two aspects.

This paper was presented at the conference from the International Federation of Information Processing (IFIP) Working group 9.4, that focuses on Social Implications of Computers in Developing Countries. The paper was presented in a track titled 'Social Mechanisms of ICT-enabled Development'.

4.4.3   Paper 3: Situated agency and Intersectionality

Following a similar process, more inductively I was able to see that there was a lack of women attending the Zambia hub on a day-to-day basis. This motivated me to look further into the social construction of gender of both hubs. In Zambia, I pursued female members of the women's organisation. I asked other members to introduce me to them and requested an interview. These interviews took place outside of the hub and many of them told me that they did not feel welcomed at the hub. This made me think of issues of inclusion and exclusion.

In the UK, I emailed the mailing list of the hub to ask members for interviews, and got several replies. In most of the interviews I asked the member if they thought of anyone else they recommended I spoke to, replicating a snow-ball process.

Furthermore, I adopted an intersectional lense to my line of questioning. What this meant was

that instead of assuming my interviewees experienced the world based on their gender, race, etc., I started identifying these based on their own words. For example, if they shared experiences of disadvantage based on their gender, then I would explore this with further questions. If they shared experiences based on their age, I would try to learn more about this.

I noticed that these aspects of inclusion and exclusion were not going to be able to be interpreted from the Capability Approach, because of the aforementioned insufficiency to provide a full account and theorisation of wider social structures. Given that mainly women were experiencing exclusion, I opted to explore literature on gender and feminism.

Initially this paper focused exclusively on intersectionality and was submitted to a special call on social inclusion at the Information Systems Journal (ISJ). The paper went through a peer-review process and was rejected. The reviewers thought it did not focus on information systems literature enough and they recommended I submitted the paper to an entrepreneurship journal.

Given that my focus was on looking at this from a development perspective, I decided to transform the paper so it looked at the concept of inclusive innovation. I opted to include the concept of situated agency to add theoretical strength to the paper because it added an interpretivist view of the situation of women, their agency and social structures that have an effect on them. Intersectionality remained as part of the methodological approach.

Given this transformation, I decided to look at which journals have been publishing papers on inclusive innovation and found the journal on Innovation and Development to be the most suitable one for this publication.

4.4.4 Coding process

Interviews were transcribed verbatim (Miles & Huberman 1994). A total of 150 pages of interview data were written in Word documents. The first step I did was to read the transcripts several times and take notes on key/constant topics. The research diaries had data from participant observation, as well as thoughts that were appearing in relation to the findings and potential streams to interpret them. Two research diaries were reviewed and digitally transcribed.

Given the voluminous amount of data I had, I used NVivo, a software package designed to aid the analyses of qualitative data (Bazeley & Jackson 2013). I considered this the most appropriate tool because it helped me have all the location of the data on one same place. Transcripts from

interviews, as well as the research diaries, were uploaded into NVivo to facilitate the coding process. Data was visualised in textual chunks that were gathered in codes (or nodes in NVivo).

At the beginning, some initial labels were elaborated rather loosely, in some cases using the participant's own terms. Given that there were three theoretical perspectives, codings evolved around these aspects. As such, initially there was a wide set of codes that were identified. However, these were changed into more analytical codes (Blumer 1954). The coding was cross-sectional, meaning that I devised the categories across the whole data set and used it as a way of searching and retrieving the already labelled data. This was helpful in making connections between initial codes so as to translate them into more analytical ones.

For the Capability paper, I followed the literature by looking at what members had to say with regard to the impact the hub had and whether their life options were being expanded or not. If a participant mentioned anything around this, I would label it under the code 'human development'. However, as the analysis progressed, I started finding certain issues that were repeated by participants, with regard to how the hub had expanded their options, establishing more specific codes. Codes like 'passion' and 'sense of belonging' were developed.

With the Space paper, I followed a similar procedure. I focused on what members perceived with regards to their work and values of collaboration and community and labelled it under codes 'collaboration' and 'community'. These two codes had already been developed with the Capability paper and so I added content within these. Then when I started finding connections I started developing further codes that spoke specifically of this. For instance, codes like 'homogeneous/heterogeneous people' and 'impact on exposure and legitimation' were developed.

With the Situated Agency and Intersectionality paper, I followed the same process. Some content fitted under already existing codes, and some other codes and themes emerged from applying this theoretical perspective. For instance, 'inclusiveness' and 'gender' were codes that were created after applying this theoretical perspective.

An initial total of 29 codes were developed (see Annex 1). After this stage, codes and quotations in each code were revised one more time, after conducting a more delimited review of literature, reducing the number of codes into themes that emerged from this process (Basit 2003). The themes were in relation to the capability expansion, collaboration and community, and agency and constraint as per the theoretical perspectives.

Some quotations from the interview transcripts were selected to help illustrate the themes emerging.

4.5 Management of ethical concerns

I follow The Social Research Association (SRA) Ethical Guidelines, published in 1980 and updated in 2003.

4.5.1 Informed consent

Subjects' participation was voluntary and these were adequately informed on the research approach and questions (Wiles et al. 2005). I received consent from the management team of both hubs to conduct my research in their organisation. I also started every interview conducted by reminding the interviewee that the conversation was consensual, their identity was to remain anonymous and they were free to terminate it at any time. I also requested their permission to record the interview. All the interviewees agreed to this. In cases where a follow-up was needed, I emailed the interviewees and reminded them that their identity was to remain anonymous.

Where I used participant's quotes for the papers, I maintained confidentiality by using pseudonyms and not sharing the name of both organisations.

To the best of my abilities, I attempted to ensure that no group was excluded from consideration in the interviews or participant observation. In fact, given that as part of my theoretical framework I apply an intersectional approach, people's identity and profile was a crucial aspect of my research. From the beginning of the fieldwork, I was concerned with cultural affinity (Miles & Huberman 1994). This was really important given that I am an outsider to both contexts, and therefore my own positionality affected not only how my research was conducted, but how research participants perceived me.

For the participant observation, I also received permission from both organisations (Myers 2009). As Flick (2009) mentions, informed consent is more difficult to obtain when conducting an observation. In cases where I wanted to register something I considered of relevance, I introduced myself to the members, explained my role and my research and asked if they had any issues with me recording this. No one ever denied me permission to do so.

The SRA also recommends:

"While social researchers operate within the value systems of their societies, they should attempt to uphold their professional integrity without fear or favour. They must also not engage or collude in selecting methods designed to produce misleading results, or in misrepresenting findings by commission or omission." (Social Research Association 2002 p.7)

I ensured that the selection of methods was the most appropriate for the research questions and aims. Furthermore, with the guidance of my supervisor, I conducted the research in a reflective manner, so as to not omit any data or misinterpret the findings I was collecting.

4.5.2 Reflexivity and positionality

Reflexivity is an ethical notion just as much as an analytical one (Guillemin & Gillam 2004). I adopt Mason's (1996) definition of reflexivity in research, which "means that the researcher should constantly take stock of their actions and their role in the research process and subject these to the same critical scrutiny as the rest of their 'data'" (p. 6). This implies recognising my role as a researcher as part of the research process and also it assumes awareness of the power relations that can be encountered in certain research methods, like semi-structured interviews (Edwards & Holland 2007).

I will elaborate on the different aspects of reflexivity that were fundamental to the research process.

My positionality: an outsider in both research settings

I was an outsider in both contexts, although what I represented in each context differed widely.

In the UK, I was an international student that hosted at the hub once a week. Many of the members I interacted with were British, although a good number of them were from other European countries (Italy, France, Andorra, etc.) There were some differences as well as some similitudes. Although my English can be considered somewhat advanced, there were some instances where I wondered whether it prevented me from fully understanding what some members told me. I reflected on this and concluded that many of the hub members are used to interacting with people from different countries, with different levels of English. Given this, although there could be some limitations, it was also a potential strength of my role as a researcher.

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Furthermore, in many of the events I hosted, because my job involved cleaning, washing dishes, mugs and glasses, it could have been perceived that I was a worker from the hub instead of being a member. I reflected on this and concluded my hosting role to be a potential strength to this research given that I would be able to see members interact with people working for the hub, as well as members from the hub.

In Zambia, I was perceived differently. I was an international student coming from a UK university, but originally from what is considered a country from the 'Global South', as I was born in Peru and have lived there most of my life. The majority of the members I interacted with knew very little about Peru. Instead, what was more evident was that I came from a UK university. I reflected on how I could be perceived as someone with resources and power, and how this could affect my interactions with managers and members. Fortunately, it was evident whilst conducting the fieldwork that this was not the case. I hardly experienced any sense of this. For example, usually when I conducted interviews I offered to buy the participant a drink or a meal, depending on the hour of the day. However, when I offered to pay for someone's drink or food, research participants would be hesitant to accept.

Nonetheless, I am aware that my positionality, as a female from the Global South, studying for a PhD in a UK university, has been a fundamental part of this research. This is why I consider my arguments to be part of an interpretation of the phenomena and do not seek to hold absolute truths, but instead provide alternatives to existing narratives.

My relationship with hub managers

I also reflected on my relationship with the managers of both hubs. Although they had agreed to let me conduct research, I was aware that as an organisation they rely heavily on their image as a collaborative space with a strong community. Because part of my research involved evaluating hubs based on their own terms, I was aware that failing to find this in my data could be perceived as counter-productive to the hub. I reflected on this from the inception of the research, throughout the fieldwork and the data analysis. This was of particular importance especially when my findings were not favourable or did not coincide with what the organisation was expecting.

This is why I decided to keep the names of all the organisations I mention (from the UN organisation I did the internship with, to both hubs) as well as the names of the respondents anonymous.

My close relationship with respondents

Furthermore, this methodology sought to build strong relationships with the respondents. Over time, a high degree of trust and a detailed understanding was developed with the respondents, their organisations and their context. It is recognised that the benefits of this affinity with the respondents may also bring the disadvantage of becoming too close and incurring a particular bias in the observation and further analysis. To reduce the impact of participatory observer bias, I was careful to discuss the subjective interpretations with my research team (lead supervisor and advisor).

There are different views with regard to how 'involved' must the researcher be. Walsham and Sahay (2005) considers that there can be limitations when establishing strong connections with the research participants, because of a potential risk that this could not be as open and honest in their responses. For other scholars, like Kvale (2006), establishing close connections with participants can also reinforce an asymmetrical power relation of the interview. For Kvale, the qualitative research interview entails a hierarchical relationship, with an instrumental conversation. According to this author, in situations where trust has been created, there is a potential risk that the researcher conducts instrumental conversations, goes deep into the participants' private life and "serves as a means to efficiently obtain a disclosure of the interview subjects' world" (p. 482).

I reflected on this and considered it important to maintain my relationships with them. I made strong efforts to ensure that I did not have any instrumental conversations with anyone, and kept in touch with them even after the data gathering stage of this research.

Challenges and learning of writing a thesis in alternative format

The final reflection I would like to share is in relation to the process of writing a thesis in an alternative format.

The idea to write a thesis in an alternative format was decided soon after my upgrade. This possibility had only recently been accepted in my College, and by then nobody in my department had ever done it. From what I understand, this is the first thesis by publication in this field at the School of Management at Royal Holloway, University of London.

The reason why I decided to follow this format is because I wanted to write in a format that would allow people outside of academia to read my findings and arguments. Given that the

motivation of this study comes from an existing issue affecting organisations and people in innovation hubs, I wanted the possibility to contribute to the conversation from research.

There have been great advantages of following this format. For example, going through the peer-review process on all three papers has helped me shape my arguments and strengthen my work. This coupled with presenting my papers in different conferences and getting feedback from senior academics has helped me think of the weaknesses and the strengths, to find ways to improve my work.

Furthermore, given that this alternative format is new in the College, there were a number of challenges, in relation to the lack to guidance on how to write the thesis. In this sense I have had to rely on existing theses from other universities in other countries. I have also had to rely on the support from my supervisor and trying to the best of my abilities to develop a thesis that follows all the necessary guidelines.

Integrating three theoretical perspectives into one coherent argument has been part of a continuous reflective process that has kept me constantly thinking on the benefits and the challenges of a thesis in alternative format.

CHAPTER 5
RESEARCH QUESTIONS ANSWERED

5. Research Questions Answered

This chapter discusses the research questions stated at the beginning of this study. It will link back to my empirical data to show how adopting the theoretical perspectives produces new insights and findings.

5.1.1 Research question 1: How should we conceptualise innovation for development?

Traditionally, space has been defined in opposition to time, presented in terms of absence of time, movement and change (Massey 2005). The spatial turn in human geography proposed an alternative view of space, as dynamic and socially constructed (Warf & Arias 2009). The concept of space-time was developed to assert that "space is not static and time is not spaceless" (Massey 2004 p. 264). What arose from this perspective was the notion of a simultaneous understanding through which space and time are being constructed as the coexistence of different narratives that one might encounter (Massey 2005).

Doreen Massey's notion of space provides a theoretical perspective of development that departs from the linear trajectory model to emphasise multiplicity, heterogeneity and coexistence of differences (1994; 2005).

She proposes a conceptualisation of space that is socially constructed and full of symbolism and power. She explains that what we understand as 'the global' is the combination of a number of 'local' narratives that are taking place in multiple settings around the world at the same time. Furthermore, Massey explains that the spatial distribution of the world, and its subsequent hegemonic narratives that shape the way the world works, is not of autonomous existence, and is actually produced and reproduced in response to political issues and by particular people in power.

Simultaneity, heterogeneity and coexistence are three key concepts to the conceptualisation that Doreen Massey developed. Not only is space the product of interrelations, but also there are simultaneous stories happening at the same time, coexisting in the same world and characterised by a heterogeneous dynamic. This results in a performative view of an organisation, one that exists in relation to others, and then is shaped by different levels of time and space.

As mentioned previously, the literature review showed that the innovation for development discourses are framed under a 'catch-up' paradigm with aspects of modernisation theory. My experience at an international organisation drew the first clues to seeing how the global discourse around innovation is framed mainly from western indicators and values. The review of reports and articles written about the topic show that innovation is conceived as something that benefits development given the impact it has on economic growth. This is due to the cross-pollination of innovation, stemming from business and management fields to the development sector (Pansera & Owen 2016). The idea behind it is that if it worked to improve businesses then it might bring a similar positive outcome in development.

What this then produces is the urgent need to make countries in the Global South more 'innovative', seeking examples from countries in the Global North. This speaks of a power geometry that reproduces the already existing inequalities in the world. To overcome this, Massey proposes that we recognise the existence of alternative narratives, all coexisting at the same time. She suggests we assume contemporaneous plurality and recognise the multiplicity of narratives and discourses around the world, following their own trajectories and valuable in themselves (Massey 1994; 2005).

The objective of this part of the research was to present an alternative view, of recognising a spatial perspective of simultaneous coexistence of narratives. Adopting Massey's conceptualisation, a simultaneous, heterogeneous and coexisting view of innovation for development means that instead of considering that countries in the Global South need to adopt 'catching-up' and adapting strategies, we should consider a multiplicity of narratives that shape the innovation for development phenomena based on global narratives of entrepreneurship and innovation and contextual factors. The people immersed in such innovation processes inform these narratives. As such, the focus was on what they were doing in each space setting and what was important for them.

Inspired by Massey's ideas, the innovation hub phenomenon was recognised as a multiplicity of spaces following their own trajectories. This was particularly relevant in this phenomenon

because of how strongly influenced by the Global North it is. As explained in the Space paper, examples like the label 'Silicon Savannah' show that innovation in the Global South is expected to follow the same trajectory as the Global North. More specifically, innovation hubs in the Global South have already been suggested to be failing because they are not producing the successful startups and businesses that incubators in the Global North have. Instead of following this route, it was important to recognise the value in multiple narratives of hubs and see what is happening on the ground. Following the work Massey has done previously on science and technology parks, hubs were evaluated based on their own terms: as spaces for people to be part of a community and to enable collaboration amongst them.

As such, this implies going beyond merely capturing the characteristics of a place or space (Gill & Larson 2014) but instead looking at the embeddedness of a hub within its historic, social and contemporary environments and the impact these have on the daily practices, the formation and enactment of community, innovation and collaboration.

Massey's proposition of multiplicity allowed me to see two innovation hubs located in two very different contexts, shaped by their own institutional support systems, coexisting and belonging to the same global movement of innovation hubs. Both hubs are self-defined as 'innovation hubs' with strong values of community and collaboration.

The findings revealed that there are features from the Zambian hub that are not as strongly visible in the UK hub. More specifically, findings showed that whilst both hubs are proposed as spaces for collaboration and community, members at the Zambia hub had a strong sense of these two values, but members of the UK hub did not as much. In fact, the data revealed that whilst the UK hub managers made efforts to enable a community and collaboration, the majority of our respondents valued the hub for the affordances they perceived for their businesses. This is not to say that all of the interviewees agreed on this. However, this was the answer in most cases.

This was then cross-referenced with participant observation and it was evident during the fieldwork that there was very little sense of collaboration. It was not common to see members interacting and collaborating on projects together. What was most visible during my observation was to see members working on their laptops and wearing their headphones. Even in the social events organised by hub managers, members interacted socially but the observations and interviews did not reveal many collaborations stemming from these events.

What was also evident from the findings was that members of the Zambia hub were not solely focused on business-centric perspectives of innovation and entrepreneurship but driven by a

strong sense of community and collaboration. Beyond wanting to develop successful startups or generate revenue through their innovations, members were more focused on learning from the process and working together to solve problems within their communities.

There are three reasons why I believe members did not place strong emphasis in business revenue. The first reason is that the creation of the innovation hub in Zambia followed a 'grassroots' process. They started by developing a community of people, focusing on what was interesting for them, whereas the UK hub followed a more top-down process to encourage collaboration and community. The second reason is that the lack of structure and a sense of 'making' the space allowed for more collaboration and community than too much control in the space-setting. The images presented in Chapter 4 (methodology) show ways in which the UK hub was trying to give structure to the space. Silence notes and instructions were given to all members so they knew the function of each area within the hub. In contrast, the Zambian hub did not have such structure and instead allowed members to use the space in whichever way they wanted.

In both cases, what was found was that the usage of the space is connected to their wider context, as well as the organisational structure. In the UK, social entrepreneurship is a well-developed policy discourse that is actively supported by institutions of government and civil society. There is a policy framework, university support, voluntary sector funders, venture capital and a media and political narrative to frame the work of innovation hubs. Consequently, organisations supporting entrepreneurial work (like hubs) are legitimised, and thus find structures that they can fit, in order to do their work.

These elements of the wider 'ecosystem' are absent in Zambia. There are a hundred other hubs in London alone that the London hub can visit to exchange learning with. However, in Zambia, this case study is the only hub, and thus the institutional support that exists in London is absent in Lusaka – so they have to invent themselves and improvise.

The Zambian hub was a place where members found different kinds of people with a driven mind set. Moreover, it was repeated by respondents that the hub was a special place because it was difficult to find such a space in Zambia. This reflected the uniqueness of the organisation in their context. When I asked a member her opinion of the success of the hub, she said:

"If success was measured by the initial reason it started and it was created, which is developing the community, yes 100%. It was about building a community and developing people's technical capacity. Literally there was nothing before these guys got here and

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they've done a very good job at that." (Mich, 29)

The majority of our interviewees mentioned the hub uniqueness within the context. For example, another member:

> *"This innovation hub is pretty much the only one and people still do not understand what an innovation hub is because we don't have an innovation hub in Zambia. If you go to someone and ask them about an innovation hub they wouldn't know what it is (…)"* (Gold, 26).

The uniqueness of the hub encouraged people to feel comfortable to open up and share their ideas and projects. The freedom to experiment and share their ideas was substantial for the creative process that members were immersing themselves in. A hub member who had visited coworking spaces in other countries said:

> *"I think that's part of the culture they've created here and I think that's because of the motive and what you are doing. These guys started it because they wanted a community. They didn't start it because they thought it was a good sell model that would make lots of money. They never thought about money. They just thought about supporting the community, that was it. And so, if people are just getting in with their headphones and not talking to anybody, they fail."* (Vincent, 32)

In summary, the Zambian hub had an unstructured, fluid and basic workspace, and thus members have to reimagine that space to reproduce it as an innovation hub. This speaks to Massey's social construction of space: members ability to re-imagine and re-produce the space into a coworking, open space with no fixed boundaries, speaks not only to how they are able to overcome the static parameters of the physical space (Kornberger & Clegg 2004) but also as open to multiple interpretations and to dynamic simultaneity (Massey 1994 p. 3) and illustrates the mutually constitutive relationship between the social and material.

A summary of this is presented in Table 7:

Table 6: Summary of findings on Paper 2

London hub	Lusaka hub
Wider support system	Lack of wider support system
Highly structured and controlled	Little structure and control
Weak sense of community and collaboration	Strong sense of community and collaboration
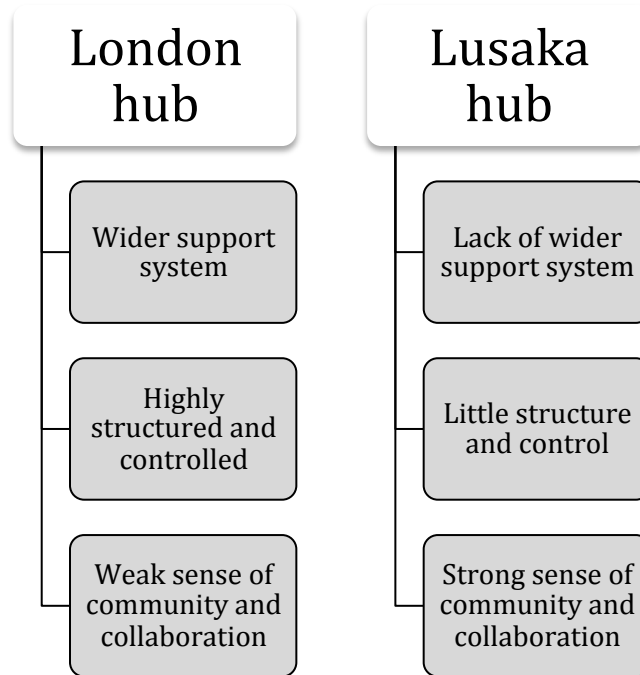
The final reason is that the Zambia hub, despite being an innovation hub, does not resemble a typical Silicon Valley incubator that solely focuses on generating financially successful innovations and startups. Instead, the Zambia hub is a place to bounce ideas and develop novel solutions to local problems. It is fulfilling a need in society, but this is not necessarily the same as what is expected from hubs in other parts of the world. Or what other hubs are achieving elsewhere.

In this respect, these findings demonstrate that hubs may have different purposes in different contexts. In some contexts it may not be all about developing successful businesses, but strengthening capabilities; developing an entrepreneurial culture; improving problem-solving skills, etc. All these aspects could be considered pre-requisites for business or for the development of successful innovations. Nevertheless, hubs remain useful organisations as they fulfill a purpose, just not the one that international organisations are hoping for necessarily.

Following the research question '*How should we conceptualise innovation for development?*' my

argument is that we need to go back to looking at what people are doing and what they value of the process. This implies recognising the multiplicity of ways in which innovation can have an effect in human development and not just on economic growth as has been revealed by both the literature review and subsequently the discourses implemented by international organisations.

At this point, some theoretical insights start emerging from these findings. By focusing on what people are doing on a day-to-day basis and what they find important of their experiences, initiatives of innovation for development should not be measured by the standards set by advanced economies, as these are embedded in different contexts, with different resources and support systems. In that respect, they will have different processes and outcomes. As such, innovation hubs need to be understood as constituted by local practices and conditioned by structural and institutional arrangements, combined with global narratives of entrepreneurship and innovation.

The recognition of these findings and theoretical insights imply adopting a concept that aspires to this multiplicity and that is to some extent breaking the current power geometry 'developed-developing' and 'innovating-non innovating' dichotomies. By extension, this implies adopting a view of development that is multidimensional and holistic instead of a narrowly focused economic view, because the findings revealed that this is not the only effect that innovation has in development.

A review of different definitions of development leads to the adoption of the Capability Approach as the most suited view. The second research question is answered through the application of this development perspective.

5.1.2   Research question 2: What is the impact of innovation in human development?

The Capability Approach suggested by Amartya Sen and subsequently developed by other scholars argues that what we define as development cannot be adequately understood by measuring income alone (GDP/capita), and that a broader conception of development is necessary if we are to adequately assess social progress (Sen 1999; 2002). Sen uses the examples of countries with high levels of GDP but with high levels of inequality. More specifically, he shares the stories of two women, located in two different countries. He discusses how they can have access to material resources but do not have freedom to pursue what they value because societal traditions expect them to stay at home and do housework (Drèze & Sen 2013). These aspects speak about the need to expand what we understand as development to include what people value

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and whether they have the freedom to pursue that.

Guided by this approach, this part of the research intended to see what was the impact of innovation in expanding people's capabilities. More specifically, it was of interest to know what members of a hub perceived was the outcome of being part of the hub and what they found valuable of the process. This was pursued by applying the Capability Approach to one of my case studies, the innovation hub in Zambia. The unit of analysis is the individual and it looks at the various aspects of innovation that lead to valued 'being and doing' of participants.

Different activities members of the hub were partaking were observed and examined. From these, it was evident that hub members would participate in a number of activities related to collaboration and learning. For instance, observing what experienced members were working on, experimenting and brainstorming, bouncing ideas with others and working on specific projects together.

As part of these collaborations and learning exercises, a number of innovations were developed. More specifically, a mobile app of the Zambian constitution, another mobile phone of a language repository for different Zambian languages, an online shop for communities in remote places, and a health mobile application to document nurses' information, and other types of similar form.

It was also observed that members of the hub were taking part in initiatives outside the hub. These included a robotics group of people who visit rural schools and teach students how to work with Raspberry pi; a gaming group that teach people how to develop games; and a group of women in ICT who visit schools to teach girls how to code, and some more of similar form.

Following the Capability Approach, these aspects were found:

Members of the hub valued the community they were part of. This was visible both in the interviews but also in the participant observation. For instance, some of the most senior members that met during my first visit to the hub in 2012 were able to get jobs because they acquired knowledge from the activities of the hub. However, even though they had stable jobs, they were still dependent to the hub for their community, and they visited the hub after work hours or in the weekends to work on their projects or help to others. They did this because they valued the relationships they had. This was discussed with one of the oldest members of the hub, who had a full time job in a telecommunications company. When asked why he was visiting the hubs on the weekends, he said:

> *"OK for me it is never about the money. Quite right it's a good thing to get money doing what you do. But for me it was never really about the money. It was about doing*

something that just makes me happy and I guess that makes me happy – doing something that solves problems with others." (Darius, 26)

Quotes like this and others demonstrate that the hub is giving members value in their lives and having an impact beyond helping them to be wealthy. Another example that demonstrates this is that they go to other places to teach people how to use technology. Instead of acquiring the knowledge and keeping it to themselves, they are going to other places like, for instance, rural schools to teach other young people how to use technology. They are doing this because they perceive value in sharing the *know-how* (von Hippel 1988) beyond the confinements of the hub.

From the Capability Approach, this speaks of capabilities in relation to collective goals of communities or a nation. The hub was not only a space where they could learn the skills through collaborating with others, but it was also a space where they developed an interest in working for the wider society. Both sets of capabilities, developing digital skills and an interest in contributing to society, were aspects that members expressed they valued. This then means that the hub was able to enhance people's capabilities and thus contribute to human development.

This was also in relation to their sense of identity, another capability that was expanded in the hub because of wider societal expectations that did not perceive value in being an entrepreneur and working in technology. In that respect, being part of a hub with like-minded people, all interested in their work and supportive of each other, helped develop their identity and find value in the work that they are doing.

In summary, what was found was that hub members value and have reason to value a number of things beyond economic income. The hub allowed people to have the ability to develop digital skills, acquire, and process knowledge in technology. It also facilitated the ability to analyse and solve problems in a collaborative manner; to be and act creatively; to help build an entrepreneurial identity and be part of a community; and to develop an interest in working in socially oriented things. Table 8 summarises these findings.

In this respect, this paper coincides with findings from Sahay & Walsham (2017) in that members of the innovation hub were empowered to make choices in their lives that were valuable to them. But it also provided unique findings because the hub was a place where members developed an interest in contributing to their wider society through their work.

In summary, most of the hub members have reason to value belonging to a community of shared practice, developing their creative thinking, having shared values and collaborating to produce social goods. Following the Capability Approach, this speaks of an inherent value held by

respondents.

Table 7: Innovation process and capability expansion

| Creative thinking

Sense of community

Building identities

Enabling collaboration and learning | → | To develop ICT

To acquire and process knowledge

To analyse and solve problems

To be and act creatively

To be part of a community

To build an identity

To work and support their nation | → | **HUMAN DEVELOPMENT** |
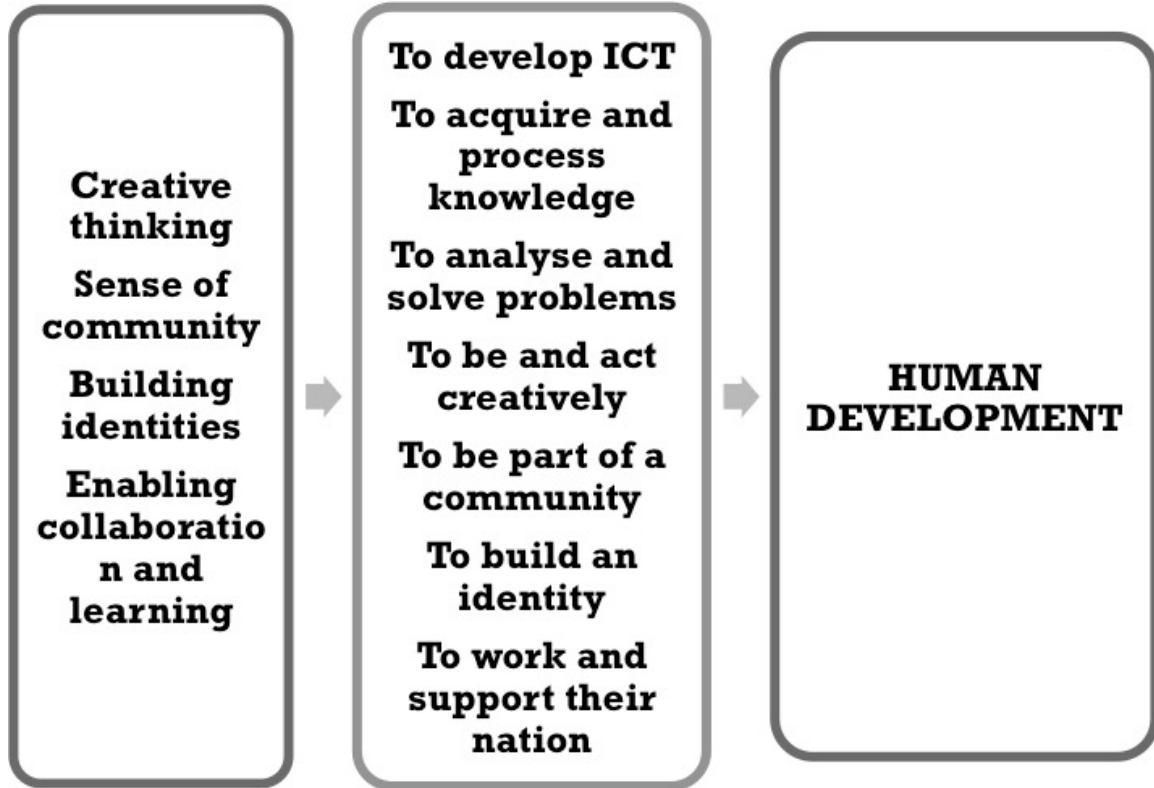
What was not found in great extent were innovations that were generating revenue, or startups making income.

At this point, this set of findings demonstrates some theoretical insights. They suggest that it is possible that when individuals immerse themselves in an innovation process, certain capabilities are expanded. The empirical data show these capabilities were expanded, but it is important to recognise that not all hubs will have the ability to expand the same capabilities.

Another very important finding was found during the fieldwork in Zambia. The number of women attending the hub was significantly less than men. Some of the female members of the hub were not attending on a day-to-day basis but only went when there were events targeted at women.

The reason was that some did not feel welcomed at the hub by their male counterparts. They felt

the hub was mainly about men and that even though they wanted to work on technology and develop innovations. Because the hub was the only place of its kind, they did not go anywhere else and thus did not innovate. At this stage of the research, it became important to look at the reasons why some women had been attending the hub, and what was different about them. I asked them and further adopted an intersectionality lens in my analysis, and noticed that those feeling excluded mainly came from a working-class background, whereas the women that did attend came from a middle-class social stratus.

This then made me reflect on the extent to which the hub had expanded capabilities. Applying the Capability Approach, reveals in what ways members had inherent and instrumental values and how their lives had changed for being a member of the hub. Moreover, it also shows that some individuals are not reaching capability expansion, and this is due to wider societal and cultural dimensions that needed to be looked at further. Following the Capability Approach, these structural forces and institutional arrangements were acting as critical 'conversion factors' in promoting innovation and improving capabilities. As such, it became important to pay attention to structural elements that may not be directly observable at the individual level. This, as mentioned previously (see section 3.3.2), is a limitation of the Capability Approach.

To further understand this, it was essential to look at a way in which we can understand how individuals experience innovation processes differently, depending on their situatedness. Although applying the Capability Approach allowed me to find relevant insights for a human-centred perspective of innovation for development, it proved insufficient for assessing aspects of inclusion and exclusion, which are important for evaluating the extent to which innovation can have an impact in Human Development. Whose capabilities are being expanded by innovation? If it is the already privileged in a society, then to what extent can we argue that innovation can be a powerful resource/process for development? If, in contrast, those commonly marginalised or excluded from innovation processes are considered, then can we bring out people in the discussion? These are queries that were proposed as part of the third and final research question of this thesis, where findings from the situated agency and intersectionality paper are discussed.

5.1.3 Research question 3: How does innovation for development acknowledge the various dimensions of inequality?

Situated agency was developed by feminist scholars to highlight how human beings are always uniquely situated in a space and time. This situatedness is presented as a constant process of how our embodiment, our particular socio-historical location and wider structures have an impact on

our choices and freedom. In this respect, it speaks of an ambiguity of the self as both a collection of social prescriptions and processes and at the same time an agent with differing levels of access to freedom (Peter 2003).

It is an important concept that has been applied to explain how women have navigated different spheres both with constraints and freedoms. Constraints that are part of wider societal structures that have for centuries placed women at disadvantage and freedoms based on their own ability to live their own life and make their own decisions. In this study, situated agency was applied to see how, from a human-centred perspective, institutional and collective social support may be required to alleviate structural barriers that hinder the equitable expansion of capabilities among members of a hub.

Furthermore, intersectionality was considered as a way to operationalise and explain a woman's situated agency, in the recognition that women's lives are not only shaped by their gender, but also by other dimensions and the intersections between these. What this means is that these other dimensions like their race, class, sexuality, age or (dis)ability may add additional layers of disadvantage to their situatedness.

This perspective was adopted to look at who was being excluded from the hub and why. Both hubs were selected for analysis in this case because the wider structure and context are relevant dimensions that can help explain forms of inclusion and exclusion. Even though nineteen women were interviewed in total, the paper goes into detail on the stories of four women, two from each hub. This section presents findings from all of my interviews to expand on what was discussed in the paper.

By adopting this theoretical perspective, findings include that women members of both hubs recognise their gender as having an effect in their career choice and experience. The women recognise that their gender has been something that has been a limitation in their careers, because of the way they have been treated or because of the opportunities offered at them. In other cases they said that their gender has been useful in letting them get jobs. These responses demonstrated that this theoretical perspective was useful as a starting point to see how women in both contexts are still experiencing certain types of disadvantages.

Furthermore, another finding was that the innovation hub in the UK was more successful at providing an inclusive environment for women. The Zambia hub did pursue an inclusive approach to women, but failed to recognise the intersections between gender and class that were critical in determining why some women felt excluded.

Although in many respects hubs offer women users freedoms and opportunities often unavailable in other more corporate environments, it was also evident that the hubs studied were not free from gender, ethnicity and class biases. For instance, innovation hub in Zambia reflected and reproduced aspects of the unequal gender relationships found in wider society. From this, some women were experiencing wider societal inequality because of the intersection between gender and class.

In the UK hub, there were still some clear and traditional gender roles. The role of the member hosts for instance, as explained in section (4.3.2), although offered to everyone, was mainly filled by women. When a hub manager was asked why she thought this was the case, she replied because people think that those roles were for women. Despite this, findings reveal that women at the hub felt welcomed and felt that gender disparities did not exist within the hub.

As mentioned in the paper, innovation has been widely studied in terms of processes and products, and it has been evaluated in terms of competitive advantage and economic growth (Blake & Hanson 2005). Very rarely has there been a discussion of who is behind an innovation or who is trying to create an innovation (Alsos et al. 2013). In the cases that this discussion exists, we usually hear the stories of people like Mark Zuckerberg, Steve Jobs, or Richard Branson.

Entrepreneurship research, for instance, has discussed what traits individuals have that makes them be successful entrepreneurs. As part of this discussion, the literature has tended to prioritise the specific profile of the American entrepreneur as a 'rugged individualist' in comparison to other types of entrepreneurs from other cultures or ethnic backgrounds. Romero & Valdez (2016) explain:

> "This traditional approach focused almost exclusively on the cultural endowments of distinct groups, such as the Anglo-Saxon 'Protestant ethic' (Weber 1930), the German-Jewish 'rich cultural heritage' of 'distinct religious and cultural traditions' (Portes and Sensenbrenner 1993, 1330), and the Chinese clan values of 'shared collective responsibility and mutual loyalty' (Nee and Nee 1973, 64)." (p. 1554)

Other cultures and ethnic backgrounds have not necessarily been part of the mainstream discussion around entrepreneurship and identity. Furthermore, very few entrepreneurship studies have applied an intersectional framework. Studies that have suggest a more complex relationship between individual and collective agency and structural inequality.

As mentioned previously, innovation, as a mechanism for development, should be evaluated for its impact on people. It has been argued that in order to look at the effects innovation has as a mechanism for development, it is necessary to look at innovation as a process that looks at advancing people and not only products. This implies that innovation for development is constructed and situated in the experiences of the people immersed in those processes.

These findings have implications for our understanding of innovation from a human-centred perspective. Innovation can have an impact in human development if it is combined with mechanisms of inclusion. However, this can only do as much if it is left at initial stages of reaching a numerical target, since in some instances even when individuals have freedom to be part of innovation, there are structural constraints that may inhibit their freedom to work.

As such, inclusive initiatives of innovation that accommodate un-critical views (that un-question the status quo) reduce the lack of women's participation to an individualistic dimension, failing to comprehend that it is a structural issue of women being historically unrecognised in wider society and limited that has contributed to the status quo.

In this respect, understanding the situatedness of a person, rather than just prescribing mechanisms to insert them in innovation processes is relevant for innovation for development. By limiting an intervention to including someone, an individual will still have to deal with structures of disadvantage, even after being included in the process. This affects their experiences in such processes but it can also be the difference between who finds it easier to innovate and who does not. Recognising that people live diverse, multi-faceted lives and that intersections of disadvantage can affect them should be recognised from the outset.

In summary, innovation merely as the process of incorporating people in the process could miss situations where doing that is not enough for sustaining change. It could have a short-term effect, but without further consideration of wider structures of disadvantage. Furthermore, without recognising that because of these dimensions women navigate both between freedom and constraint, there is a risk that innovation will lose its relevance in its effects for development.

If innovation expands capabilities of those that are already privileged and fails to take into account those that have been historically excluded, then the implications of innovation for development can be questioned. It is important here to discuss then whether this changes in any way the findings of the second paper. If the innovation hub was a space that helped expand capabilities of both men and women who are middle-class and failed to expand capabilities of working-class women, then can we argue this is significant for development?

For this to be discussed properly, it is important to remind the reader what was explained about the context (see section 4.3.3). As mentioned previously, even though the majority of hub members are middle-class, have the material resources to study and in most cases own a laptop, they are embedded in a context that does not recognise value in being an entrepreneur and working in technology. This was something that most members mentioned, that the hub was special to them because it helped them feel that what they wanted to do had value, in a context where society, government and their relatives do not understand why developing innovations is a meaningful activity.

In that respect, members felt they were not only developing innovations, they were also transforming their society's perception of what it is to be an entrepreneur like them. They were gaining respect despite having to deal with the negativity of people around them.

Here is an example of this: one of the hub members in Zambia wrote a poem that he shared on Facebook. What he wrote in this poem expresses his sentiments over what he is doing and why it matters. I asked his permission to share it in this thesis and he accepted. The poem is titled '*A poem by a techy to normal people*' and starts by explaining his frustrations when his friends and family tell him that he is not doing something productive:

> "My working friends think am mad doing this thing called a 'startup' and worse enough, it's on the internet! I sell lines of code and small boxes with fancy colours called apps for a living. They also think my passion is killing me. In fact, they are calling it a suicide mission. I tried asking this girl out and she asked what I did for a living...proudly said 'Entrepreneur'. She toned our conversation down to basics AKA 'friendzone'. My very traditional relatives are concerned about my age and when am I marrying? They say 'The village is too quiet we need grandsons, should we organize a wife?' Organise me a wife?
>
> 'Yes, Sonny. We think you need someone who will get you settled because we think you wasting your time' […]"

The poem continues with his response to what he perceived was society's lack of acceptance and what his vision was:

> "I looked up in the skies for a sec to hold my shame …I could almost feel a stream of tears falling from my left eye.... I became mad and it stopped then suddenly like the

vicfalls my head starting compiling every single problem these lines of code and fancy colored boxes could solve... I retaliated:

I am wasting my time so that one day your grand children will know how to build a proper drainage system in a village through e-learning. That toilet over there? Is breeding all forms of disease. Come rain season you will remember my words. But if we Google now, you could build a better one by yourself.

Am wasting my time because one day I want you to talk with a doctor anytime from the comfort of your home. When last did a doctor visit you?

Am wasting every hour so that my kids can freely host legitimate protests against dictators without being harmed.

Am wasting my time so that the next generation of youths can fit in any economy without behaving like dinosaurs.

Wasting my time so that we can have our new history apart from 1964. I refuse to praise that past because it's 2015 now…

Time on making sure when am your age, no ones daughter is pressured to marry because a son next door is working at the council... that girl will be busy somewhere in the bush with her iPad conserving the environment through data capturing.

So that one day, my wife will have unlimited options besides babies and the kitchens […]" (Kevin, 26).

So even though this member is middle-class and arguably already privileged in society, he is embedded in a context where he does not have the freedom to be an entrepreneur. Consequently, by challenging his friends and relative's expectations, he is exercising his agency and expanding his capabilities. This in the Zambian context has a significant value. Even middle-class people are constrained by society's labour and gender roles, and the hub is a place that, to some extent, is helping transform that.

It is in this respect that implications for development exist. As already discussed, to have a holistic view of the phenomena, what is necessary is to see this from a process of inclusion, and recognise that the hubs studied here have a limiting impact because of wider structural dimensions of disadvantage. It was at the intersection between gender and class that the hub's development impact fell short. However, there can be other intersections depending on the context.

CHAPTER 6
CRITICAL EVALUATION

6. Critical Evaluation

This chapter presents the contributions of this study to the existing literature of innovation for development. It will begin by revisiting the existing literature review and highlighting the existing gaps. It will then continue by discussing my contribution to the literature, at the theoretical, methodological and empirical levels.

6.1 A Human-Centred view of Innovation for Development

As outlined in the literature review (Chapter 2), existing innovation literature has focused largely on the extent to which innovation produces economic growth and competitive advantage (Fagerberg 2009; Fagerberg et al. 2010; Fagerberg & Srholec 2008).

The literature review gathered innovation concepts that have been used to assess development. To the best of my knowledge and abilities, these are the main concepts that have looked at how innovation drives development.

These concepts include the concept of National Systems of Innovation (NSI), the Diffusion of Innovation (DoI) theory, and the Technology Acceptance Model (TAM). The review suggested that these models have been useful in improving our understanding of innovation and the importance of innovation in the context of economic growth, competitive advantage and technological success.

Furthermore, the literature review showed that when the concept has been applied to case studies in the Global South (or the developing countries as usually labelled in this set of concepts) it has been mainly framed as a 'catch-up' process; seeking to imitate and adopt existing technologies and practices into other contexts. These aspects have an underlying resemblance with modernisation theory (introduced in section 2.1.1), because it proposes to imitate activities and frameworks developed in the Global North. In many ways these concepts have failed to grasp what is actually happening in the Global South in terms of innovation. Instead they are presented as an after-thought (Arocena & Sutz 2000).

In contrast, more contemporary framings present a different view. Stemming from the recognition

that innovation can enhance inequalities (Cozzens 2008), these concepts have arisen to highlight how innovation can happen in the Global South. Included in this category is grassroots innovation, innovation at the BoP, frugal innovation and finally, the concept of inclusive innovation.

Inclusive innovation is presented as a broader label that has been applied to recognise that for innovation to have a positive impact, it needs to include those that have been marginalised in a particular place and time. This involves innovation stemming *from* the bottom and accessible for people *at* the bottom.

Although relatively recent and still not thoroughly researched, these concepts have helped expand the understanding of innovation that traditionally stems from the industrialised countries in the Global North. While I recognise the great importance of these concepts, there are some shortcomings. For instance, it has been argued that inclusive innovation has been used as a 'catch-all' concept; that is, it looks to focus on everything and anything, without much theoretical depth (Bryden et al. 2017). This leaves a concept like inclusive innovation in danger of losing its analytical utility.

This is due to the fact that most studies of inclusive innovation focus on who is included and who is not. Instead, what is needed is to ask *why* these people are excluded, and look at the wider structures that have produced this process of exclusion. Only by doing that will there be a discussion of how to break such structures of disadvantage, thereby leading to a more inclusive approach.

Another reason why the concept of inclusive innovation may have theoretical weakness is because, ironically, it has only focused on a specific group — namely poor people in 'developing' countries. At the same time, innovation concepts from Classical framings draw exclusively from practices originating in the Global North. Inclusive innovation as referring to the poor or the most needy speaks of a limited and closed view of inclusion. By contrast, from a Human Development perspective, I agree with Sen and others when they argue that all countries are still developing (Kleine 2013). As such, the developed-developing dichotomy as equated to the innovating and non-innovating countries establishes a power disparity that only enhances inequalities, and as such, should be contested.

By adopting these perspectives, there is a notable absence of analysis on how individuals perceive themselves in innovation. Analysis of markets, businesses and revenue presents important material factors in a country and a person's wellbeing. However, there are other aspects that

should also be considered relevant, such as how social, historical and structural forces shape individuals and their perceptions in innovation. Furthermore, in the very few instances that *people* are mentioned, it is in terms of their role as 'users', rather than individuals situated in specific socio-historical contexts, with agency and capabilities.

This perspective, labelled as the '*invisibility of people*' in the innovation for development discourse, presents shortcomings in the literature as it lacks a holistic appreciation for the way in which innovation has an impact in development. What is also missing from this discussion is finding out what people find valuable from innovation processes.

As such, this study addresses these gaps by presenting an alternative way of framing innovation for development, by bringing *people*, their experiences and values, back into the analysis. It is the argument of this thesis that by doing this, it is presenting a human-centred view of innovation as a mechanism for development. This is an aspect of innovation for development that has not been thoroughly studied.

Contributions

This thesis has made a contribution to this gap in the literature by providing two case studies of innovation hubs and an analysis of their contribution to human development. Innovation hubs are part of the innovation for development phenomenon that is supported by international organisations and the private sector. Furthermore, it is also a phenomenon that has spread both in the Global North and the Global South.

In this respect, the primary contribution of this research has been to present an alternative perspective of innovation hubs as a mechanism for realising human development goals. Methodologically, this study represents the first intercontinental case study of innovation hubs both in the Global North and the Global South. It is also unique in adopting a human-centred approach to assess the contribution of innovation hubs to enabling people to lead lives that they value and have reason to value. By adopting a human-centred approach, individual stories were highlighted, in relation to the kinds of development they valued. This enabled the emergence of counter-narratives to the dominant ones that perceive innovation hub users as rational utility calculators focused on maximising profit. In doing so, this research expands our understanding of the range of impacts that innovation hubs can have in development.

The alternative human development perspective presented here sees innovation as a process that can have developmental impacts in a multiplicity of ways and which is not narrowly focused on economic inputs. Instead, this study argues that innovation can expand people's capabilities in a

number of ways that go beyond the impact on revenue or competitive advantage.

In this respect, this is not a study about the impact of innovation on economic growth. There are several scholars that have focused on this aspect (see Fagerberg et al. 2010; Howells 2005). Furthermore, this is not a study of the impact of innovation hubs on economic growth. There are several scholars that are currently working on this aspect. This is an exploration of innovation as a mechanism for human development.

This is not denying that the impact of innovation in economic growth is significant. It is important as means to live a valuable life. But it is recognising that there are other aspects that people choosing to work in innovation hold to be important but which are neglected in the existing literature. These gaps have been addressed by presenting a human-centred approach which complements the existing literature by further enhancing our understanding of innovation.

The human-centred approach includes three theoretical perspectives that look at the phenomena from three different levels; the macro-level is analysed through (1) Doreen Massey's spatial perspective; the meso-level analysed through (2) the Capability Approach; and the micro-level through (3) Situated agency from the lenses of intersectionality. Altogether, these perspectives focus on *people,* how they are situated and what they value by being involved in this phenomenon.
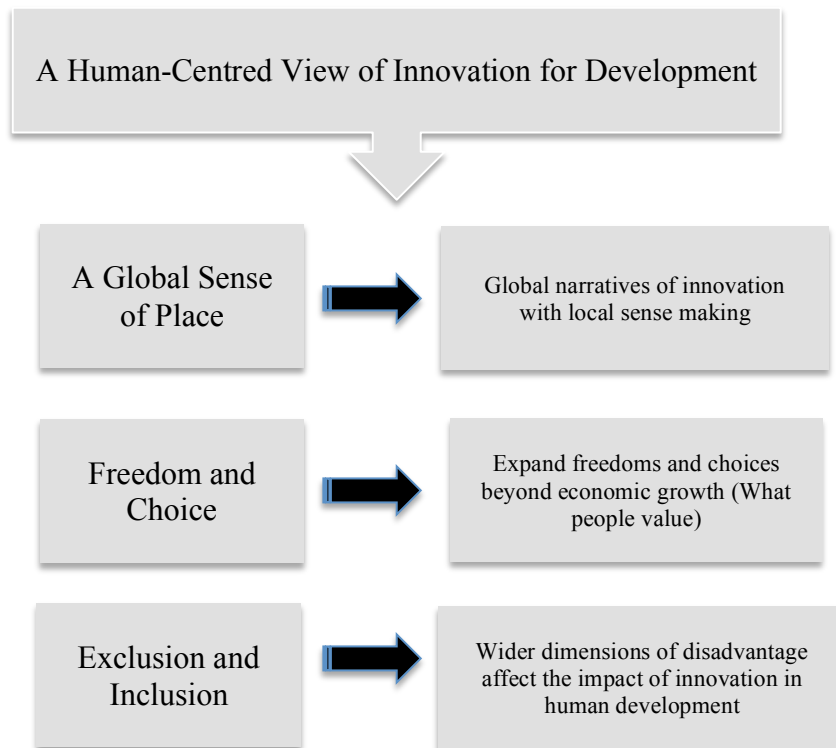
All theories have strengths and weaknesses and these were discussed in Chapter 3. The combination of these three elements allowed a holistic analysis that would not have been possible using a less sophisticated framework. Using the Capability Approach provides a normative framework that allowed me to move away from a narrow econometric evaluation of innovation hubs and open up the possibility of pluralistic and multi-faceted elements of human development. Combining this with the spatial analysis allowed a more critical and holistic analysis of innovation hubs in their structural context in a way that would not have been possible using the Capabilities Approach alone. The addition of situated agency through the lenses of intersectionality added another layer of critical analysis that revealed who benefitted and who was excluded in the innovation hub. The application of these unique theoretical perspectives is a contribution to the literature.

The next section will detail theoretical themes that contribute more specifically to the human-centred view of innovation for development.

6.1.1 Themes

Figure 3 provides an overview of the themes that arise as main 'take-aways' from the theoretical contribution. Together, they summarise the insights that inform the existing shortcomings in the literature.

Figure 4: A Human-Centred View of Innovation for Development (Source: Author).

A Human-Centred View of Innovation for Development

A Global Sense of Place → Global narratives of innovation with local sense making

Freedom and Choice → Expand freedoms and choices beyond economic growth (What people value)

Exclusion and Inclusion → Wider dimensions of disadvantage affect the impact of innovation in human development

Theme 1: A global sense of place

From a human-centred perspective, innovation stems from the Global North and the Global South and is shaped by a "global sense of place" (Massey 1991). Innovation for development in practice is embedded in particular socio-historical and cultural contexts. In this study the focus was on support systems available for each hub in their own contexts (see 4.3 section). These were connected to socio-historical contexts: in one case is the city of London, that represents a World City and is considered to be one of the most powerful cities in the world (Massey 2007). In the other case is Lusaka, Zambia's capital. This is a relatively new country, in global terms, where the economic activity is mainly focused on mining and agriculture. The research combined both global narratives of innovation with local sense-making, two aspects that shape the ways hubs take form. It does not take the form of a single linear story and as such should be understood for its multiple forms.

This local sense-making may include the different meanings in socio-cultural and historical locations, and can either enable or constrain the impact of innovation in human development. For instance, it can include cultural aspects that speak of collectivity and entrepreneurial identity - qualities which are beneficial for innovation to take place. However, it can also include societal aspects that speak of gender inequality, which affect who is included and excluded from innovation processes. From a human-centred perspective, looking at the interaction between these aspects can shed light on how innovation for development is a complex phenomenon with no straightforward path.

An example of this is the conflicting results between the space and inclusive innovation paper that shows that even though the London hub was more successful at producing an inclusive space for women, the Zambian hub was more successful at enabling a collaborative community. A consideration of all these complexities is important to have a clearer understanding of the impact of innovation in human development.

To go further in our understanding of innovation for development, I took the lessons learned from entrepreneurship research and applied it to innovation. Furthermore, an intersectional approach to innovation considers the larger social structural context in which people involved in innovation processes are embedded. An intersectional approach highlights the need to look at structural forces that affect innovation activity, recognising that they are inextricably linked from one's social location (Romero & Zulema Valdez 2016). Situated agency helps illustrate this by pointing

out how in a structural context, individuals and collectivities are differently positioned within hierarchically organised class, gender, and racial group classifications, among others, which intersect to produce a diversity of experiences and outcomes.

Moreover, focusing on the social construction of gender in an innovation hub through the lenses of situated agency and intersectionality has helped identify and connect internal organisational processes with external and seemingly unrelated societal processes. What is learned is that social context can show up in everyday practices and impact on a woman's situated agency. This is of particular relevance in societies that have high levels of gender inequality.

Theme 2: freedom and choice

From a human-centred perspective, innovation is not valued for its contribution to economic growth alone, but rather it is valued for the multiple contributions that it can make towards multiple goals.

By focusing on what people value, it is possible to see that innovation follows different trajectories rather than solely impacting on economic growth. As such, innovation for development can be seen less as fixed and frozen in time, but as a dynamic process that speaks of additional values beyond economic, related to identity, experiences and practices of those involved. These values are significant because people involved in such processes consider them relevant. Whatever they value will depend on the context in which the phenomenon is taking place. For instance, because the London hub was embedded in a context where wider support systems existed in abundance, collaboration and community was less valued. Conversely, because wider support systems were relatively absent in Zambia, members of the Lusaka innovation hub placed a higher value on collaboration and community.

Innovation is not just a process to empower individuals to become entrepreneurial actors, but also the process by which people develop capabilities in multiple aspects of their agency and wellbeing. Following the idea of multiplicity, what these choices are may vary from individual to individual, but some commonalities in each space-setting can be possible. It is in this respect that innovation for development is a process that can expand choices and freedoms, but it can also be a process that can expand unfreedoms and limit agency thereby constituting a process of exclusion and inclusion, as will be presented now.

Theme 3: exclusion and inclusion

Furthermore, innovation for development can be a process of freedom and expansion of choices, but because it is dependent on people's situated agency — that is, by the meanings given in particular socio-historical locations — these choices and freedoms can be more accessible to those more privileged in society. This was illustrated in the inclusive innovation paper through the example of Gemma at the Lusaka hub, whose agency freedom was limited by the intersection of gender and socioeconomic class. This was demonstrated when she explained that men at the hub were not welcoming of them. In contrast, Vicky perceived that the lack of women at the hub was due to women's own lack of agency.

In this respect, freedoms and choices can be constrained around certain dimensions of inequality, namely gender, race and class and so innovation for development can be a process of choice and freedom expansion for men and privileged women only. As such, a consideration of dimensions of disadvantage in each context setting is necessary for innovation for development to include all. Incorporating intersectionality in the analysis was essential to enable me to surface these important issues that are largely absent from the existing literature of innovation for development.

What this means then is that innovation, as a mechanism for development, can also be a process of inclusion and/or exclusion. Inclusion is not just in the sense of incorporating more people in the process, but rather it is recognising how wider dimensions of disadvantage found in those settings exist and affect the impact of innovation in human development. These dimensions will not disappear just by including people through quotas or bespoke interventions; they will exist as long as a wider proposition for change is being developed. The London hub was able to achieve this by having women in the management team and through the decision-making of the hub.

Consequently, for innovation for development to have the potential to expand freedom and choices, it should look at inclusion as a process that is embedded in socio-cultural dimensions. It is suggested in this study that innovation can help expand capabilities of those historically left behind if a wider contextual basis of dimensions of disadvantage is considered from the outset.

In conclusion, innovation is framed for its contribution to development both in terms of process and outcome, which should be evaluated not just in economic terms, but also on what people find valuable from the process. As such, the dominant global discourse of innovation for development promoted by government bodies and international organisations needs to be expanded to reflect

the diversity of innovation outcomes that people have reason to value in different parts of the world.

To summarise this section, this is the first study to take a human-centred approach to analyse the contribution of innovation hubs to human development and to assess who is included and excluded from hubs. Furthermore, this is the first study that looks at two innovation hubs located in both the Global North and Global South from a perspective of multiplicity, rather than a catch-up paradigm.

There are a number of studies and concepts that have expanded our understanding of innovation from a narrow impact on economic growth (Blake & Hanson 2005; Pansera 2013; Pansera & Shanker 2014; Pansera & Owen 2016; Heeks et al. 2014; Cozzens & Sutz 2014; Smith et al. 2014). I have drawn on those studies and have contributed further to the literature by presenting an alternative human-centred perspective. In practice, what this means is looking at what people value, how they experience innovation and how they are situated in contexts that simultaneously enable and constrain their agency.

These unique tripartite theoretical perspectives enabled me to focus on what the people working in innovation hubs themselves valued, at the same time as understanding the structural context in which they exercised their agency and enabled me to make a nuanced analysis of who benefits, and the dimensions of exclusion affecting agency freedoms and development outcomes.

6.2 Methodological contributions

This study represents the first intercontinental case study of innovation hubs in the Global North and the Global South respectively. The reasoning behind it was to break the power geometry of developed-developing to one that recognises a multiplicity of phenomena. As such, it is also unique in adopting a human-centred approach to assess the contribution of innovation hubs. Methodologically this implied incorporating an ethnographically — informed research design that paid special attention to people's narratives and experiences. This was possible by spending a significant amount of time in each space setting and developing strong relationships with members of both hubs.

Furthermore, this human-centred approach focused on what people considered were the different parts of their identity that affected their experiences. Instead of imposing the identities based on my own prescriptions of them, I focused on their self-definition as a starting point for

conversation. To the best of my knowledge, there are very few studies that explicitly adopt an intersectional lens to study innovation hubs.

This study also provides methodological contributions in terms of operationalisation of each theoretical perspective. As mentioned in Chapter 4, the initial normative framework started with the Capability Approach. However, it was evident from the fieldwork that while adopting this single perspective would have offered an interesting insight, it would have been insufficient to advance a more holistic perspective. As such, it demonstrates the importance of looking at one phenomenon from diverse perspectives, as long as these are ontologically and epistemologically compatible. Other scholars who would like to continue developing a human-centred view of innovation for development can apply this. More specifically, this speaks of the importance of an open-ended methodology that can allow integrating theoretical perspectives depending on what is found during the fieldwork.

As previously mentioned, operationalisation of the Capability Approach has been considered one of the main challenges of this approach, as noted by several authors (Kleine 2013). Nonetheless, instead of adopting an existing operationalisation of the Capability Approach, this study followed an inductive human-centred approach by focusing on what people perceived as valuable of the process.

Finally, this study provides a way to operationalise Doreen Massey's conceptualisation of space and the implications for development. Although Massey's work has been applied to issues around human geography and regional development, not much work has applied it to look at case studies from the Global North and the Global South simultaneously. This intercontinental approach is in itself a contribution to the literature.

6.3 Empirical contributions

The spread of Tech hubs in the Global South under the banner of "innovation" is a new and emerging phenomenon. Limited academic research has been conducted beyond the grey literature from international organisations and NGOs. This study constitutes one of the early pieces of academic research that looks in-depth into both the discourses and practices of tech hubs and development.

The study reveals a substantive disconnect between the dominant conception of innovation hubs as spaces that will generate profits and help create jobs and the broader meaning-making on the

part of hub members. These, in many ways, see innovation hubs as producing a range of valued elements that go beyond profit-seeking.

From their perspective, hubs can be spaces where they can belong to a community of like-minded people, bounce ideas and learn the skills to develop innovations for social good, like in the Zambian case. Furthermore, hubs can also be spaces that merely provide the necessary resources to develop innovations, without feeling like they belong to a collaborative community, such as the UK case. Therefore, the day-to-day practices happening within innovation hubs and what people value of these spaces is far more complex than what is being described in reports and what funders are seeking to finance.

Furthermore, another empirical contribution is along the potential of hubs to be inclusive or exclusive spaces for individuals that are already at a disadvantage in wider society. An innovation hub can be a space where women feel that the wider gender inequalities are temporarily eliminated, like in the UK hub, or it can be a space where wider societal structures of disadvantage are translated in the space setting, as in the Zambian case. The diversity of perspectives and possibilities opens the opportunity to recognise the multiplicity of ways in which innovation hubs are taking shape.

The dominant narrative of innovation hubs sees these as serving narrow profit-making objectives. This is discordant with the multiplicity of motivations that surfaced from my empirical research. In this respect, these motivations and objectives need to be explicitly recognised in the rhetoric of innovation hubs and supported and promoted by funders as legitimate and important elements of innovation for development.

6.3.1 Recommendations for policy

This section seeks to present ideas that can be significant for government representatives and funders of innovation hubs.

Innovation hubs are part of a global movement of new entrepreneurial spaces. What makes hubs distinct from other previous types of organisations is shared values of collaboration and community. Hubs will normally be designed with these as part of their organisational structure. In this sense, hubs have the potential to provide an inclusive space. Entrepreneurs and freelancers are all making use of these spaces, developing innovations and working on their own projects or startups.

Despite the flexible structure of hubs, the lack of clear understanding of what they are and what they do has been reason for concern. As such, a number of organisations have proposed categorisations and developed mappings with their own definitions. Moreover, some have also written manuals including toolkits for hub management and design of the workspace.

Although these types of initiatives are very useful and necessary for practitioners looking to either start a hub or improve the services offered in an existing one, what is also important is to highlight that the day-to-day practices of hubs will be influenced by the context and support systems existing for them.

In that respect, a policy recommendation is the development of bottom-up initiatives that look at context, structure, and support systems already existing and see how these will be reflected in the confinements of the hub space. If a context does not have much support for entrepreneurs and the work they do, then initiatives should focus on engaging a community of people and working with them to create a hub with their interests at heart.

As has been mentioned before, there is a lot of interest in supporting hubs, be it through legislation or funding. Hubs are perceived as spaces that will help develop successful innovations and startups, generate revenue and ultimately injecting money into the economy. However, in reality, so far there is little data to support the contention that hubs make a significant contribution to the economy, whether directly or indirectly.

Furthermore, in terms of legislation this is significant because entrepreneurship is perceived as the neoliberal solution to unemployment and poverty. As such, governments see hubs as places that will encourage an entrepreneurial spirit that will ultimately contribute to the economy.

While this can definitely be appealing for policymakers to instrumentalise hubs and to seek tangible economic impact, I believe that this approach can be problematic. Ultimately, entrepreneurship cannot by itself solve social issues without institutional support. The entrepreneurs themselves are already raising their voices in protest: they cannot entrepreneur themselves out of bad policy. The systems around them need to work (Okolloh 2015).

Government bodies and international organisations seeking to promote innovation hubs should pay closer attention to the existing institutional support in the specific environment in which a hub is embedded. The lack of legislation and support should be perceived as problematic for the work that hubs are doing in context. At the same time, adopting existing strategies and legislation from other contexts can be problematic if they fail to take into account what is happening in the

broader social and political context. As such, I suggest that they evaluate multiple narratives and practices of innovation embedded in different social institutional conditions on their own merits.

Given this, my findings reveal important implications for these actors. While I acknowledge that innovation hubs should be promoted and supported by funders, international organisations and local governments, I do not believe they need to do so for reasons exclusively linked to the dominant mainstream discourse of economic growth and competitive advantage. Instead, I argue that hubs are also productive of elements of human development that people value and have reason to value.

In this respect, policy recommendation would go along the lines of expanding the indicators of what constitutes success within these hubs, going beyond the outputs/patents; startups being created or incubated; mobile apps created; to processes related to capabilities. Examples of indicators could be providing a space for a community; enabling opportunities for learning; or encouraging young people to pursue a career they value. These can complement existing indicators that are proposed for grants or funding proposals for hubs.

Consequently, the mainstream discourse around hubs would benefit from broadening the scope and expectations of what hubs can enable. Rather than reductionist valuings limited to economics alone, a wider informational base of what people have reason to value is necessary for any comprehensive assessment of human development, as Sen has argued throughout his work (Sen 1999; 1987; 1992; Sen 1985).

6.3.2 Limitations and recommendations for practice

In this section I would like to acknowledge a potential limitation of this research.

My main focus was on the discourse of innovation for development stemming from international organisations and government institutions. As such, I considered the most appropriate sources of literature would be main papers in mainstream journals. However, it is important to recognise the existence of more nuanced views, of innovation in development. For instance, not all the literature of NSI looks at context from the Global South as following western counterparts. They focus on trying to understand how different actors coexist to enhance or limit innovation. My analysis is more normative because my focus is on human development. However, I recognise in retrospective that further analysis could have provided a more holistic picture.

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Furthermore, I would like to mention a few things that I believe can be helpful for hub managers and enthusiasts.

If I have learned anything from studying these hubs it is that they can hold great value for members. Innovation hubs as organisations should be considered as institutional mechanisms for human development in the sense that they could expand both individual and collective capabilities. As such, the developmental impact of innovation hubs should be evaluated more holistically than just business success. If hub managers start gathering what capabilities are being expanded as part of their work, I believe they will strengthen their role and impact in society. This can be done through registering these narratives in impact reports or evaluations. This will further build the evidential base to support the argument that innovation hubs are productive of valuable elements of human development.

This will also, by extension, prepare the necessary environment so hubs in the Global South can deal with the impositions from Western innovation models with counter-narratives of what is working in each space setting. I argue that this starts by focusing on what people within these hubs find valuable.

Furthermore, there are some lessons for hub practitioners in terms of being truly inclusive spaces. If hub managers are interested in providing an inclusive space, then considering structural inequalities and intersectionality from the outset is very relevant. This can be done by incorporating members' experiences and perceptions, as well as trying to reach people outside the hub for ideas. But most importantly, I suggest that hub managers adopt a reflective process where they can see whether their strategy recognises the wider structural elements in society that can be translated into the space-setting.

Finally, in terms of collaboration, I recommend that hub managers allow members to take part in the making of the space, so that this process can open possibilities for ownership and engagement with others. This is the model adopted by the Zambian hub, which proved more successful at enabling a collaborative environment than the model adopted in the UK hub, which involved many resources for the physical design of an open, collaborative space. This also means going beyond looking at the physical design to incorporating strategies that include people participating in the process of building a collaborative environment.

6.4 Suggestions for future research

In this section I would like to reflect on the further avenues for research.

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In this research the focus was on wider structural dimensions like support for hubs, in the form of discourses, legislation and sources of funding. Furthermore, I also looked at wider dimensions of disadvantage that affect individuals. It was evident from the peer-review process and presenting in conferences that I could have adopted different perspectives to explain why something was happening or not happening inside a hub. For instance, I could have used a cultural approach to explain why members in the UK hub were not as collaborative as the members in the Zambia hub, and perhaps I would have found that from a sociological perspective Zambian culture has more collective values than UK culture.

On reflection, given that the theoretical perspectives employed here are culturally and politically specific, it would have been useful to incorporate what Santos (2016) calls 'Epistemologies of the South', which involves alternative thinking from the Western understanding of the world. In this respect, incorporating theoretical perspectives from the Global South to explore potential alternative world-views and how innovation for development takes shape may have provided further insights about the distinct cultural valuations of southern practitioners (Pansera & Owen 2016).

This is particularly significant given the critical perspective adopted here on the imposition of Western framings of innovation. If I critically reflect on my own research design, I understand it could be criticised for being largely drawn from concepts derived within the Western Anglo-American academia. It might therefore be an interesting direction for future research to revisit these issues using a post-colonial lens and the theoretical framing of critical perspectives from the Global South such and Buen Vivir and Ubuntu. This not only would have provided interesting insights, but it would have also contributed to breaking the power geometries and introducing theories and concepts that are not part of the mainstream literature that we find in Western academia (Hammett 2012). This omission is one limitation of this research and a possible valuable direction for post-doctoral research.

In relation to this, it is important to recognise that this research focused its findings and analysis in two cases studies. To develop more sophisticated theorising, more case studies in different parts of the world are needed. As such, another avenue for future research could include incorporating more case studies to be able to provide a wider picture of the innovation hub phenomena.

CHAPTER 7
CONCLUSION

7. Conclusion

Innovation, as a buzzword in development, is being framed as a mechanism for economic growth and competitive advantage. This idea stems from hegemonic narratives of innovation developed in the Global North.

Organisations embodying the innovation for development discourse are being promoted and funded for the impact they may have in creating successful ventures, creating jobs and injecting money into the economy. There is little evidence that these expectations are being accomplished.

What is missing from this perspective is what people find valuable from innovation: how individuals perceive themselves in innovation, and how social, historical and structural forces shape these perceptions. To assess the impact of innovation in development, it is necessary to bring *people* back into the discussion.

This thesis has proposed a human-centred view of innovation for development, based on three theoretical perspectives: Doreen Massey's spatial conceptualisation of development, Amartya Sen's Capability Approach and situated agency and intersectionality, developed by feminist scholars.

The main research question of this study was: *Can innovation be a mechanism for human and inclusive development?*

I consider that to understand this, it is important to look at the global discourses that shape innovation for development, the social structures that affect how it takes place, and the individual identities that are situated and intersecting with dimensions of disadvantage.

In this thesis, I do not intend to propose a set of guidelines or good practices of innovation for development. Instead, what I present here is an alternative perspective that can inform existing research and discourses, to remember that in conversations of development, what people value and perceive and how they do so matters. This speaks of a "contested, plural and hybrid field of innovation for development" (Pansera 2014 p. 290).

This research has contributed new knowledge about non-income related factors that innovation hub members value and have reason to value. The dominant discourse about innovation hubs has been focused on their potential to drive economic growth and job creation. This discourse has shaped the conditionality attached to hub financing and determines hub management. The ability of hubs to contribute to economic growth and job creation is indeed important elements of development. At the same time, this research has made clear that there are many other factors that innovation hub members value including belonging to a community of like-minded individuals, and developing solutions to societal problems and more. From a human-centred perspective, we are required to take seriously what individual actors value as important to their own conception of self-development. To the extent that innovation hub users feel that they have reason to value collaborative working and the co-production of socially beneficial goods then development funders and hub managers should support and promote these objectives.

This should not be seen as a single solution to a complex issue. It still remains that a number of initiatives need to take place from a diverse set of angles for human development and inclusion to take place. This just presents the stroke of a brush on a complex canvas of development.

However, it is possible to transform the innovation for development discourse, from one that focuses purely on economic effects to one that moves forward to considering the effects on people's lives, and what meaning they have for it.

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9. Appendix

Appendix 1: Codes from interviews and participant observation

Codes	Description
1. Active software developers	When they talk about learning to code not just for their own benefit, but to produce something with a positive impact in society.
2. Changing mindsets	When they talk about the hub being a place that helps change their mentality about something. Or when they talk about the hub as a place that is helping people in society change their minds about innovation and entrepreneurship.
3. Collaboration	When they talk about working with others. When it was observed that they were working with others.
4. Entrepreneurship	When they talk about their business ideas and aspirations.
5. Hub structure	When they talk about the hub's own organisation, values, mission.
6. Gender	This was separated into several codes: women in technology, women's experience of work.
7. Homogeneous/heterogeneous people	When they talk about the other members at the hub and whether they think alike or not.
8. Impact on exposure and legitimation	When participants talk about the impact the hub has on their work.
9. Impact on freedom to express	When respondents express that the hub has allowed them to express themselves.
10. Impact upon society (social)	When they talk about their work having an impact on society.
11. Inclusiveness	When they talk about the hub being an inclusive space.
12. Innovation	When they talk about how their work is driving innovation in the context.
13. Lack of skills	When they talk about their lack of skills (either previous or current).

14. Learning together	When they explain how they improve their knowledge by learning together.
15. Member perception of innovation hub	Whenever they talk about the hub.
16. Mentoring	When they talk about helping other people with fewer skills. Why they do it and how they do it.
17. Motivation	When they talk about motivation, in one way or another (i.e. they have found motivation, they are motivated, they lack motivation, etc.)
18. Networking (connections)	When they discuss issues in relation to the network and connections they have made as part of the hub.
19. Out of the box thinking	When they talk about 'thinking outside the box' in the hub.
20. Passion	When they talk about 'passion' in their work and at the hub.
21. Problem-solving	When they talk about 'problem-solving' within the hub
22. Resource-constrained	When they talk about the lack of resources (in society and within the hub)
23. Resource-provision	When they talk about the resources the hub provides (internet, space, etc).
24. Risk-taking	When they talk about developing innovations and the risks necessary.
25. Self-learning within hub and teaching others	When they talk about learning processes within the hub.
26. Teaching skills	When they talk about teaching skills within the hub.
27. Tech limitations and challenges within society	When they talk about the technology ecosystem in their country.
28. Trust	When they talk about trust within the hub and with members.

29. Culture	When they express something about their culture.

Appendix 2: Guide for interview questions

Strongly linked to the hub
What were you doing before you founded Bongohive? Or what were you doing before you decided to join the hub How was the ICT situation in Zambia before the hub was created? Have there been any changes in the context? If so, what sort of changes? Apart from your business, are there other changes in your life as a result of joining the hub Was there a vision of the hub? What vision did you have when you first started organizing the hub? Has that vision been achieved? Were there any challenges throughout the process? How many innovations have been designed within the hub? Can you describe to me one of these? From its invention to its development? How did the hub allowed for that idea to happen? What do you think facilitated that process? What do you think complicated that process?   What are the barriers to entrepreneurs? The aim looks to increase collaborations, what do you mean by collaboration? What kind of collaborations is Bongohive looking to increase? How important is collaboration to achieve this aim?
Not too strongly linked
Tell me about yourself How long have you been part of the hub? What were you doing before you came here? Where were you? Why did you decided to become a member?

What was your first impression of the hub?

And how has been your experience at the hub so far?

What things do you like of the hub?

What things don't you like of the hub?

Do you face any challenges by being part of this hub?

Do you have any specific business or project that you're working on at the moment? Tell me about it

Has your business/project benefitted in any way by being part of this hub? How?

Have your benefited in any way by being part of this hub?

What things are most valuable to you in life?

About their business/organization/project
-Where do you work? What is the name of your business/org/project and what is its aim?
-How many people do you work with directly?
-What are the main things you value in your business/project/organization?