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"Hub" Organisations in Kenya: What are they? What do they do? And what is their potential?

Abstract

From Senegal to Tanzania, and South Africa to Egypt, over the last decade "hub" organisations have proliferated across the African continent. Whilst this rapid growth has been accompanied by increasing academic interest, to date, works examining this phenomenon and this new dynamic organisational form remain limited. This study aims to contribute towards addressing this gap by examining hub organisations in Kenya. More specifically, and drawing upon in-depth qualitative case study research with three hubs, it examines: the nature of hubs in Kenya, what they are; unpacks what they do, and especially the role of hubs as intermediaries; and evaluates the potential of hubs, including as promoters of entrepreneurship, innovation and wider positive social change in Kenya. This research identifies the multiple hybridities of hub organisations in Kenya. It finds that they perform an intermediary role working institutional voids. Finally, both potential and limitations of hubs are identified. This research contributes to hitherto limited work on hubs, especially in Africa, and theorises hubs as hybrid intermediary organisations. It also showcases Africa as an important but still understudied context for management scholarship.

Keywords: Hubs; Intermediaries; Institutional voids; Hybridity; Africa; Kenya

Introduction

In the World Bank World Development Report 2016 no less than 117 technology hubs are identified in Africa (World Bank, 2016). Meanwhile, the Ananse Group (2016) catalogue 226 African innovation spaces and counting. Over the last decade, from kLab in Kigali Rwanda to Impact Hub Accra in Ghana, 'hub' organisations have proliferated across Africa. Accompanying this growth in numbers has been increasing interest and engagement with hubs by policy makers across the continent. The Kenyan government has for example recently committed to establishing hubs in each of its 47 counties (World Bank, 2014a). Amongst donors and multilateral institutions enthusiasm for hubs is also apparent. For instance, a recent World Bank paper argues that technology hubs are helping to drive economic growth in Africa (Kelly and Firestone, 2016). Meanwhile, the UK's Department for International Development (DFID) has been active in both funding hubs in various African countries, but has also established its own DFID *Innovation Hub*. Nevertheless, whilst there is growing academic interest in hubs in Africa and beyond, research has largely failed to keep pace with these rapid developments on the ground. Accordingly, there is much about hubs that we do not know.

The aim of this research is to examine hub organisations in Kenya, and more specifically to provide insight about what they are, what they do, and what their potential is. In so doing it will contribute towards addressing gaps in our knowledge about hubs in Africa, and more widely. Three more specific objectives of this research are identified: (1) explore the nature of hub organisations in Kenya – what they are; (2) examine the intermediary role played by hub organisations in Kenya – what they do; (3) evaluate the possibilities and limits of hub organisations, including as catalysts for entrepreneurship, innovation and wider positive social change in Kenya, and beyond – what is their potential. This study draws upon in-depth case

study research with three hub organisations in Kenya. In each case, qualitative interviews were undertaken with key informants. Discussions in this paper are informed by extant literature on hubs, hybrid organisations (see Doherty et al 2014), intermediaries (Dutt et al 2016) and institutional voids (Khanna and Palepu, 1997).

Kenya was chosen as the focus for this research as it has been at the forefront of hub development in sub-Saharan Africa. It has the most hubs in East Africa (IT News Africa, 2017), with many of these mature and looked too as models for hubs elsewhere. Hubs can also be found across Kenya rather than just being focussed on the capital. All this makes Kenya an ideal setting for this study. As noted earlier, Kenya's government is also actively promoting hubs as a tool for national economic development. How African governments can encourage technological innovation, foster entrepreneurial development and the flourishing of local firms is an important theme of this special issue, and one engaged with in this paper. This paper further aligns with the special issue's focus by providing insights on how hubs, as intermediary organisations, support African entrepreneurs in overcoming institutional constraints, enabling them to innovate and develop, adopt and/or upscale new technologies.

This study makes a number of contributions to literature on hub organisations. First, it unpacks what hubs are, identifying their multiple hybridities and positioning hubs as a type of hybrid organisation. Secondly, it examines the intermediary work of hub organisations, including the different ways in which they act to bridge institutional voids – what they do. Whilst there is some acknowledgement of hubs as intermediaries in extant literature (see Toivonen, 2016; Toivonen and Friederici 2015), in-depth understanding of this, and what their intermediary work actually entails is lacking. Thirdly, existing work on hubs has often focussed on them in developed country contexts. Comparatively, there are fewer studies of hubs and indeed wider institutional intermediaries (Armanios et al, 2017; Dutt et al 2016) in developing countries, especially in Africa and under conditions of institutional complexity. Our study contributes towards addressing this gap. In so doing it also showcases how research on Africa, drawing upon African data, can provide insights for wider management scholarship. Finally, as noted previously, amongst policy makers, donors and multilateral institutions, there is growing interest in hubs and their ability to catalyse entrepreneurship and innovation, and act as agents for positive social change – what is their potential. Yet both the promise and limits of hubs in this role remain little studied. Therefore this research both adds to knowledge in this area and has implications for practice.

The paper is structured as follows. Existing research on hubs is first reviewed. This is followed by discussion of literature on hybridity, intermediaries and institutional voids. The research methodology is then outlined, with the three cases study hub organisations introduced, as well as discussion of the Kenyan context. The character and in particular the multiple hybridities of hubs in Kenya are then identified. Next, the intermediary work of hubs is explained. The potential and limits of hubs in Kenya, including as catalysts for entrepreneurship, innovation and wider positive social change are then evaluated. Finally, conclusions and areas for future research are offered.

Literature Review

Hubs in Africa – What do we know?

The case studies in this paper are 'hub' organisations. The term 'hub' is now widely deployed in both academic literature (see for example Jimenez and Zheng, 2017; Toivonen and Friederici, 2015), and amongst practitioners (Gathege and Moraa 2013), to describe a new dynamic organisational form that has proliferated across Africa and globally in recent times. In such work 'hub' is sometimes preceded by 'technology', 'innovation' or 'entrepreneurship', or indeed some combination of these. In this paper we eschew this, reflecting the fact that hubs can vary significantly in their focuses, for example they may target 'tech' or 'non tech' ventures, or indeed both. However, as noted by various authors, a precise definition of a hub remains elusive (see Friederici, 2014; Toivonen and Friederici 2015). Hubs are more than just shared workspaces, although this is often a feature of what they offer. They can also be distinguished from accelerators and incubators, which frequently entail more structured programmes and engagement with participant firms. Although again the boundaries between these types of organisation and hubs may be quite blurred, and their activities may overlap. They are also different from labs which are often (although not always) situated inside of organisations. Hub organisations furthermore have diverse origins. Some are initiated by civil society actors and academic institutions, others are private sector led, whilst many are connected with governments. Indeed hubs may be a combination of these. Hubs furthermore operate using diverse business models (World Bank, 2014b) and gain their funding from a variety of sources.

Whilst recognising this complexity and ambiguity, definitions of what a hub is can be found in the literature. For example in one of still few studies examining hubs in Africa, Gathege and Moraa (2013: 6) define them as: *"open working spaces that actualize the concept of co-working, and serve as spaces for knowledge exchange and community building"*. Meanwhile, in more academic work, Toivonen and Friederici (2015) identify four core features that they suggest characterise hubs. These are: (1) hubs build collaborative communities with entrepreneurial individuals at their centre; (2) hubs attract diverse members with heterogeneous knowledge; (3) hubs facilitate creativity and collaboration in physical and digital space; and (4) hubs localize global entrepreneurial culture. Nevertheless, Toivonen and Friederici (2015) stop short of providing a fixed definition of a hub. They instead call for further research to develop our understanding of them, and which may lead to the identification of meaningful analytical types. In another recent study, Jimenez and Zheng (2017:1), who apply a capabilities approach to innovation in examination of a hub in Zambia, define a hub as a *"space where technologists, computer scientists, hackers, web developers and programmers congregate to network, share programmes and design to bring their ideas to fruition"*. Jimenez and Zheng (2017) also suggest that hubs represent a form of enhanced co-working space with services like community building, pre-incubation, incubation and acceleration, variably offered. The above practice oriented definitions are helpful in understanding what hubs are and what they do. However, building from them and also our own research we propose the following more conceptual definition of hubs as hybrid intermediary organisations that work institutional voids to promote entrepreneurship, innovation and affect wider social change.

Having defined what hubs are, discussions now turn to what we know about them. Overall, research on hub organisations in Africa, and globally, remains in its infancy. In part, the former

reflects a more general paucity of management research on Africa (for some recent examples see Amankwah-Amoah and Sarpong, 2016; Murphy, 2001; Musango et al 2014; Osabutey and Jin, forthcoming; Tigabu et al 2015). Meanwhile, limits in work on hubs in general can also be attributed to the relatively recent emergence and rapid rise to prominence of such organisations globally. Nevertheless, there does exist some scholarship on hubs that offers insights for this study. A significant segment of this work has focussed on the relationship between hubs and social innovation. For example, the aforementioned work by Toivonen and Friederici (2015) seeking to define "what a 'hub' really is". There is also further work by Toivonen (2016) on hubs as social innovation communities. Meanwhile, Backmann (2014) undertakes in-depth ethnographic case study research to examine crisis and transition at the *Impact Hub* organisation. Work by Gathege and Moraa (2013) and Jimenez and Zheng (2017) examine hubs in Africa more specifically. This is also the focus of the work of Hvas (2016) who studies a Kenyan technology hub and its role in catalysing the participation and integration of local firms into global production networks. Meanwhile, a recent collection of work edited by Ndemo and Weiss (2017) brings together current perspectives on digital entrepreneurship and innovation in Kenya, with some consideration of hubs by contributors. Beyond academic work, insights can also be drawn from literature produced for and by practitioners and multilateral institutions (see Bloom and Faulkner, 2015; UNICEF, 2012; World Bank 2014b, c). Whilst the aforementioned literatures provide practical insights about what hubs are and how they work, engagement with theory in these studies, including in how they frame hub organisations and their activities, has been more limited. In offering a more theory driven perspective on what hubs are, and what they do, our research contributes to this hub literature.

We consider hubs to be different to incubators and accelerators which adopt greater structure and focus in their activities and which are tailored for ventures at particular stages of development. Nevertheless, and as has been noted by other authors (see Jimenez and Zheng, 2017), there is often overlap in what is offered by hubs and these other organisational forms. Indeed, the descriptors 'hubs', 'incubators', 'accelerators' etc. are used synonymously by some authors (see Hansen et al. 2000). Accordingly, work on incubators in Africa (Ndabeni, 2008; Sriram and Mersha 2010), and in wider developing and emerging economy contexts (Carrayannis and von Zedtwitz, 2005; Dutt et al 2015; Lalkaka, 2003; Sonne, 2012), also helps to inform our thinking about the nature and activities of hubs. As does extant work on accelerators in varied country contexts (see Cohen, 2008). This is particularly the case when theorising the nature and work of hubs, with theory on these other types of intermediary organisation developed further than that on hubs. In both academic and practitioner literature discussion can also be found of 'labs' as another type of collaborative innovation space (see Bloom and Faulkner 2016; Muligan, 2006), including in African contexts (McLachlan et al, 2015). There are again overlaps between labs and hubs, with this extant work and theory on labs insightful for our work.

In summary, we have discussed the definition of hubs and what we currently know about them. Their relationships with incubators, accelerators and labs has also been explained. In existing literature on hubs, and also work on these wider types of organisation, they are often identified as forms of intermediary organisation. In the following section we explain further what this means and why and how such a perspective is adopted in this research.

Intermediaries, Institutional Voids and Hybridity

The notion of intermediaries can be traced back (at least) to early work in neo-institutional economics (see Spulber, 1996; Townsend, 1978). In more recent times, interest in intermediaries has extended to innovation studies (Howells, 2006; Knockaert et al 2014), but also wider management scholarship (Armanios et al, 2017; Dutt et al 2016; Mair et al 2012). Dutt et al (2016: 820) present a broad definition of intermediaries as *"agents that function as a means for bringing about an activity, often by connecting other actors while providing value that may not be possible by direct trading between the actors"*. Whilst for Armanios et al, (2017) intermediaries link two or more parties to bring about activities that could not readily happen otherwise. Dutt et al (2016) identify three different types of intermediaries. First, financial intermediaries who connect surplus and deficit agents (Pilbeam, 2005). Secondly, innovation intermediaries, which Howell's (2006) describes as *"an organization or body that acts as an agent or broker in any aspect of the innovation process between two or more parties"*, see also work by Knockaert et al (2014), Polzin et al (2016), and Yusuf (2008). Finally, there are *"institutional intermediaries"* who are those agents whose activities have the potential to create or develop institutions, and to bridge institutional voids.

This latter group of *'institutional intermediaries'* is of particular relevance to our research. It has also been the subject of increasing attention in the literature. This includes in burgeoning scholarship on social innovation, institutional voids, and organisations working in Base of the Pyramid (BoP)/ subsistence markets. Mair et al (2012), for example, examine the intermediary work of the organisation BRAC in Bangladesh, as it seeks to build inclusive markets through activities of redefining market architecture and legitimating new market actors. Meanwhile, Parmigiani and Rivera-Santos (2015) discuss a lack of intermediaries and wider institutional support faced by Multinational Corporations (MNCs) looking to enter into BoP/subsistence markets. This notion of institutional intermediation is of particular relevance for this research, where it is deployed as a lens to consider the activities of hub organisations in Kenya. Indeed, Dutt et al's (2016) work itself is very relevant for our study given its concern with the intermediary role of incubators in emerging market contexts, discussing how, why and when they emerge to address institutional failures. Dutt et al (2016) identify that the work of incubators, as 'open system intermediaries', in emerging market contexts, principally encompasses market infrastructure development (MID) and business capabilities development (BCD). These concepts provide useful starting points for conceptualising the institutional work of the hub case studies in this study. Furthermore, in their conclusions Dutt et al (2016) highlight a need for deeper within country analysis of incubators as intermediaries, and for more research to understand the nature and impact of MID and BCD activities by incubators. Whilst our paper examines hubs rather than incubators it nevertheless speaks to these needs.

Given the particular focus in this paper on hubs as 'institutional' intermediaries, our analysis also draws upon perspectives from institutional theory (Di Maggio and Powell, 1983). However, more particularly, we engage with extant work on organisations and institutions in emerging and developing economies (Battilana and Dorado, 2010; 2015; Littlewood and Holt, 2015; Rivera-Santos et al 2012; Yang et al, 2015), and especially notions of *'institutional voids'* (Khanna and Palepu, 1997; Mair et al 2012; Parmigiani and Rivera-Santos, 2015). Institutional voids can be understand as gaps in business and market infrastructures and institutions, with Khanna and Palepu (1997) identifying five types of voids. These are: (1) product market voids, which are institutional failures stemming from information asymmetries that affect

relationships between firms and suppliers and firms and customers; (2) labour market voids, these are failures in labour markets that mean it is difficult for firms to identify employees or partners with the required skills, or such people do not exist; (3) capital market voids, these are when there is a dearth of financial institutions to provide capital that entrepreneurs or firms need to grow; (4) regulatory voids, whereby rules are highly changeable, conflicting or absent; (5) and contracting voids, characterised by a lack of formal written contracts stemming from enforcement issues (Parmigiani and Rivera-Santos, 2015). Institutional voids are described by Dutt et al (2016: 821) as being characteristic of environments in which *"the foundational infrastructure for the conduct of business is insufficient to support business formation and growth"*. Given Kenya's low ranking in the World Bank's Global Ease of Doing Business Index (92nd of 190 countries, and 116th in the area of starting a business - World Bank, 2017a) it may be considered such an environment. In summary, extant literature on institutional intermediaries and voids will be used in this paper to unpack the intermediary work of hub organisations in Kenya.

The final body of literature this paper draws upon is that of hybrid organisation scholarship (Battilana and Dorado, 2010; Doherty et al 2014; 2014; Holt and Littlewood, 2015). This literature is used as a lens to consider the question of what hubs are. Hybrid organisations combine aspects of multiple organisational forms, spanning boundaries and incorporating elements from different institutional logics (Pache and Santos, 2013). In extant literature on hubs there is already some recognition of their essentially hybrid character. For example Toivonen (2016) highlights hubs as hybrid online/offline social innovation communities. Meanwhile, Bachman (2014) in discussing the development of the organisation Impact Hub examines its search for an effective hybrid business model for up-scaling and social impact. Recent work by Marchant (2017) also explores the different ways in which hybridity manifests in organisational culture, and how this is managed, comparing two tech hubs in Kenya with contrasting origins. Meanwhile, wider work on incubators identifies their hybrid characteristics (e.g. Etzkowitz et al, 2005; Nowak and Grantham, 2000). This recognition in extant literature of hybridity in hubs, and wider intermediary organisations, in addition to the findings of our own research, validates engagement in this paper with hybrid organisation scholarship. The hybrid and institutional perspectives drawn upon in this paper are also complementary. Scholars have shown for example that the characteristics of hybrids, as well as their activities are informed by the institutional environments in which they are enmeshed (see Littlewood and Holt, 2015).

In this review, literature and theory on intermediaries, institutional voids and hybrid organisations has been introduced. In combination these works constitute the conceptual framework for this research guiding our exploration of what hubs are (hybridity), and what hubs do (intermediation and institutional voids). In this review we have also identified what we currently do and do not know about hubs, and how our research contributes to addressing gaps in this understanding. From a practical perspective, the need to better understand the potential and limits of hubs has also been identified, with this an area in which our paper has implications for practice. We turn now to the methodology employed in this research, introduce the three case studies in depth, and the Kenyan context.

Methodology

Data Collection

Discussions in this paper are based upon in-depth case study research (Yin, 2013) undertaken in June and July 2016 with three hub organisations in Kenya – further information on these is provided in the next section. Data was collected primarily through key informant interviews. In total 17 interviews were carried out. Interviewees included hub management, users, and wider commentators. Interview participants were selected purposively. Hub managers were interviewed in all three cases to provide an insider perspective on the organisations, their histories, what they do and why, and the challenges they face. Hub users were interviewed to gain an alternate viewpoint about topics like how hubs work and what benefits, if any, they bring to users. Finally, a wider commentator on hubs nationally was interviewed to gain a more overarching perspective. All three sets of interviews provided insights for achieving the research objectives. The specific individuals interviewed in the cases were selected on the basis of access negotiated with gatekeepers, participants' willingness to participate, and with the objective of gaining the views of a range of user types e.g. both traditional and more social entrepreneurs.

Interviews were conducted in English and in one case Kiswahili. Interviews lasted between twenty minutes and several hours, and were semi structured. A standard approach for capturing emerging themes in field research was adopted (Strauss and Corbin, 1998) with interviews recorded and later transcribed. Interview protocols were utilised informed by the study's research objectives and extant literature, but also iteratively revised and developed based on preliminary analysis and reflection on previous interviews (Glaser and Strauss, 1967; Eisenhardt, 1989). This aligned with the research's grounded theory approach (Corbin and Strauss, 1990). Interview data was supplemented with analysis of secondary documents e.g. reports and online information, and observation research during which field notes were taken. Additionally, the legal and policy framework in Kenya was reviewed to gain further understanding of the national level institutional environment for hubs.

Data Analysis

Analysis of interview data entailed a thematic coding process building from the ground up and culminating in the identification of higher order conceptual codes, and was achieved with the aid of qualitative data analysis software. Whilst preliminary analysis of interview data occurred during collection, following on from this there was a deeper data analysis stage, entailing the following steps. To begin with all interview transcripts were read and annotated by both members of the research team, who then met to discuss and compare preliminary impressions. One member of the research team then took the lead in identifying preliminary codes through a grounded and largely open coding process – although framed by the study's research objectives, and working through each case study in turn. It was considered important to conduct this within case analysis first, before the cross-case analysis, to develop a rich understanding of each case (see Eisenhardt, 1989; Yin, 1981). The second member of the research team then reviewed these preliminary codes, which were adapted – for example repetitive codes were merged, new codes were added - based on their feedback. This continued until no new relevant codes were identified, and no further adaptation was deemed necessary. Cross case analysis and comparison then occurred entailing a search for patterns and the identification of recurrent themes, but also recognising areas in which data contradicted, in these latter instances deeper

probing was undertaken to explain differences. This more axial coding (Strauss and Corbin, 1998) process led to the identification of higher level, cross case, and more conceptual codes relating to the study's objectives. These more conceptual codes were then again reviewed and adapted based on input from the second member of the research team. These conceptual codes in turn formed the basis for identifying core categories (Corbin and Strauss 1990). A final more selective coding process around these core categories was then undertaken. Throughout, this analysis and coding process was highly iterative, and entailed repeated comparison with and tying of emerging findings, codes and categories to extant literature (Eisenhardt, 1989).

Case Studies and the Kenyan Context

Table 1 introduces the three case study hubs and identifies data collected for each. Of the three cases two are based in Nairobi, Kenya's capital, and one is based in a more provincial city. The cases have been anonymised. They were selected purposively. Nairobi has been a centre for the development of these kinds of organisation nationally (Bloomberg, 2015). Meanwhile Kenya has led the development of hubs across East Africa. The two Nairobi cases are thus enmeshed in a well-developed local innovation system (Bento and Fontes, 2016; Egbetokun, 2015) with ready access to government actors, some of the East Africa region's leading universities, international and domestics companies, and global not-for-profits. This location makes them interesting, it also meant that they were likely to be relatively sophisticated, active, and externally networked. However, whilst both hubs were located in Nairobi they also still had quite different profiles (see Table 1), for example in their funding models and focuses. This helps to provide a more complete picture of the character and range of activities undertaken by hubs in Nairobi, and Kenya more widely. It also facilitates cross case analysis (Yin, 1981) and comparison for the purposes of theory building (Eisenhardt, 1989). The third case study in a more provincial city setting was selected to allow for further comparative analysis with the two Nairobi case studies. In contrast to the Nairobi case studies the third hub was located in a mid-size city with a less developed 'local innovation system' and fewer external linkages. This case was also selected to reflect the fact that across Kenya, and beyond Nairobi, an increasing number of hubs have been and are being established. For example Swahili Box / SwahiliPot (Mutengi, 2016) in Mombassa, LakeHub in Kisumu, and the Tumaini Innovation Centre in Eldoret. It was therefore felt to be important to look at a hub beyond Nairobi to achieve a more complete sense of the character, activities, limits and potential of hubs in Kenya.

Whilst the focus of this research is the hub case studies it is important to provide some additional information about the Kenyan context in which they are situated. As identified previously, whilst there has been some recent improvement, Kenya remains overall a difficult place to start and run a business. Entrepreneurs face challenges of costly and time-consuming registration, whilst business managers more generally grapple with issues of poor physical infrastructure, complex property registration, difficulties in enforcing contracts, and a complex and burdensome tax system (World Bank, 2017a). Other challenges include high (perceived) levels of corruption, Kenya is ranked 145th out of 176 countries in the Corruption Perceptions Index (Transparency International, 2017). This undermines trust in political but also wider economic and social institutions and systems. Meanwhile, Kenya's low Human Development Index ranking of 145th out of 188 countries (UNDP, 2016), which includes an educational dimension, suggests a need for the upgrading of the technical capabilities of many Kenyans including entrepreneurs and their employees (see also the 2013 World Bank Enterprise Survey - World Bank, 2017b). Finally, the World Economic Forum's Global Competitiveness Index

Table 1: Case Study Hubs and Data Collection

Hub	Background and Activities	Funding Model	Focus and philosophy	Data Collection
Hub A (Nairobi)	Two locations in Nairobi. Founded in 2013. Further hub in Cape Town, South Africa. Primarily a co-working space. Various members from for-profit to social enterprises and non-profits. Run and host events, including in collaboration with other actors. Offers shared services – facilitated by third parties.	For profit business. Organisations pay to use desk/office space and services. Various types of usage pass. Income from hosting and running events.	Focus on organisations that have reached a certain level of maturity e.g. have customers, have funding etc. sufficient to rent space and pay for services. Rather than nascent entrepreneurs. Not all start-up businesses some post revenue and post funding. Particularly focussed on for-profit businesses rather than NGOs. Tech businesses rather than traditional firms.	Interview with senior manager; secondary data analysis of online materials.
Hub B (Nairobi)	Founded in 2013. Varied members both for profit and non-profit. Offers co-working space, but also services and business support. Paid Membership programme whereby members receive advisory and developmental support, discounted services, and information. Three main programmes: *Hubcubation* for starting entrepreneurs; *NGOs for Profit* for aspiring social entrepreneurs; *Develop a Sustainable SME* for SMEs	For profit business. Organisations pay to use office space and services. Paid membership programme. Fees through organisations paying to participate in programmes.	Aim to be inclusive/ open to entrepreneurs of all types, all industries, including social entrepreneurs and non-profits transitioning to social enterprises. Those entrepreneurs and organisations that can pay for services and programmes. Focussed on the development of sustainable businesses and wider organisations, but alongside providing skills and training also support personal development.	Interview with: senior manager, staff, x 3 users; secondary analysis of online materials
Hub C (Provincial city)	Began as a meeting amongst tech enthusiasts at a café, later gained a permanent space. Officially launched in 2015. Provides free co-working space and internet for members. Membership is free. Hosts events. Facilitates opportunities for members to work on projects and with businesses. Outreach in local schools and community to develop tech skills. Hackathon type activities.	For profit. Use of space and internet at the hub is free to members. Gains income from small grants, hosting events for business and public sector organisations, and members do contract work for local businesses who donate a finders/ facilitation fee to the hub. Founders subsidise from other income sources.	Focus on tech. Users often not established and viable businesses but rather young people in the community with skills and interest in coding and tech. Social entrepreneurship activity through engagement with local community and schools.	Interview with senior manager; managers x 2; users x 6; participant observation and note taking; secondary analysis of online materials

ranks Kenya 96th out of 138 countries (WEF, 2017). In addition, when this index is unpacked, on the sub-indexes in relation to basic requirements including dimensions like institutions, infrastructure, education and health, Kenya performed poorly achieving a rank of 115th globally.

Entrepreneurs and firms in Kenya clearly face a challenging institutional and wider contextual environmental. It is perhaps partially in response to this that we have seen the emergence of hubs in Kenya. The specific proliferation in hubs, rather than (at least to the same extent) other forms of intermediary organisation like accelerators and incubators, might also reflect the greater proportion of early stage entrepreneurs in Kenya and wider African contexts, compared to developed economies. Hubs may be a better fit with the needs of such early stage entrepreneurs and their ventures. Kenyan entrepreneurs may also struggle to grow their ventures to the requisite size to meaningfully access incubator and accelerator services. This point is illustrated by the following quotation from an interview with a hub manager *"it would still be fairly the early stage in the European context but later stage in this context"*.

Other more positive antecedents for the growth of hubs in Kenya can be also identified. These include government enthusiasm for them. As noted earlier, Kenya's government has committed to establishing hubs across all of the country's counties in coming years (World Bank, 2014a; Asoko, 2016). Kenya's government has also established a relatively supportive policy and legislative environment for digital venturing (Ndemo and Weiss, 2017), and for support organisations like hubs. Meanwhile, the fact that many hubs in Kenya and especially Nairobi have a particular focus on 'tech', alongside developments in digital infrastructure like the laying of the first fiber-optic cable on the Eastern Seaboard of Africa (the TEAMS cable), as well as the breakout success of web applications like M-Pesa (a money-transferring app), these can all also be seen to have spurred hub development in Kenya. To conclude, particular national but also local level factors have encouraged the development of hubs in Kenya as a whole and Nairobi especially.

Hubs as Hybrid Organisations

In the Oxford English Dictionary a hybrid is defined as *"a thing made by combining two different elements, a mixture"* (OED, 2016). Analysis of our data identifies hybridity, in varying forms, to be an important characteristic of hubs in Kenya. This hybridity manifested in multiple ways, including in their purposes, in how hubs operated, in their business models and how they are funded, and in who they work with.

The following quotation from an interview with management at one of the case studies illustrates the first aspect of hub hybridity, namely in organisational purpose:

> *"We are a for-profit business though I wouldn't say that's mutually exclusive from being a social enterprise … I would still say that we were a social enterprise, I would say that you could definitely say that of us, but it is not at the cost of being a for-profit business as well"* (Interview Hub Management)

All three of the case studies were for-profit ventures. Yet as shown by the above quotation this was not regarded by interviewees as exclusive from being a social enterprise. Social enterprises are identified by Doherty et al (2014) as archetypal hybrid organisations. To varying extents our cases self-identified or were willing to be described as social enterprises or *"social*

businesses". Albeit interviewees often stressed the sustainability of their business models and a desire not to be perceived as NGOs. In all three case studies organisational purpose was articulated in terms of both economic rationales e.g. making profits and return on investment, but also social impact and contribution to society, with potential for tension between them. These duel/hybrid economic and social purposes are further illustrated in the quotation below:

> *"A good example is Hub C itself because we know there is a lack of tech skills in Western Kenya, and not only in western Kenya but in Africa. The problem is that many of the tech initiatives are based in the capital, so Hub C was founded with that intention of decentralising access to technology and technology education … we still have to keep the space free and open to anyone who wants to come in as long as they sign up to be a member, but while at it we need to figure out how to make money."* (Interview Hub C Management)

Further hybridity, and indeed fluidity, was apparent across our case studies in the way in which hubs worked. An overview of what each case study hub does is provided in Table 1. It encompasses the following activities: provide co-working space; run and host events; provide and/or facilitate shared services; run training and development (incubation) programmes for entrepreneurs, businesses and NGOs; undertake outreach work in schools; and provide a meeting space for members – including young people. The three case study hubs offer and undertake different combinations of services and activities, depending on their respective models. Nevertheless, across the cases blurred boundaries were observed between hubs and other types of intermediary organisation. For example Hub B runs several training and development programmes akin to what might be found in business incubators, for example the 'Hubcubation' programme. Parallels can also be drawn between Hub B's programme 'Developing a sustainable SME' and the activities of accelerators. Meanwhile, in the case of Hub C its work developing local tech capabilities are akin to activities by NGOs, and even state actors. The boundaries between 'hubs' and other types of intermediary organisations like incubators, accelerators, social enterprises and NGOs etc. are thus blurred. Hubs seem to span organisational categories engaging selectively and variably with activities more closely associated with other types of intermediaries. It may even be the case that in some instances the 'hub' moniker is applied, or adopted, inappropriately, and that another label is more suitable. This overall ambiguity and blurred boundaries are illustrated by the following interview quotation:

> *"you see our primarily role is to provide co-working space so we are not yet say an incubator or accelerator, even though much of our work overlaps with theirs. Like yesterday we had a boot camp, but as much as we have those particular initiatives, we don't have a long-term plan of taking people through a class and kind of graduating them"* (Interview with Hub Manager)

Another dimension of hub hybridity identified concerned their funding models. In the case studies, sustainability and profitability were explicitly stated goals, yet two of the three cases received either in-kind donations or direct funding from donors. Hub C in particular had previously worked with and received support from a number of domestic and international corporations, global foundations and donors, and the Kenyan government. In interviews the founders also mentioned having to *"chip in from our own pockets"* and subsidise Hub C from their other businesses. In this sense hubs can again be seen as somehow hybrid, not fully or

only for-profit. It might be that this is particularly the case for hubs away from capital cities like Nairobi where the number of resourced start-ups and entrepreneurs willing to pay for services may be limited, thus making the development of a viable business model challenging.

In one of the cases particularly, further hybridity was observed in the informal way in which it operated, described by its management as *"kimandazi mandazi"* (informal). This hub, and others in Kenya, straddle the boundary between the formal and informal economies. This manifested in relationships with employees and users, in its funding approach, and in contracting and services provided. Meanwhile, such is the pervasiveness of informal economic activity in Kenya (Holt and Littlewood, 2014) even more formalised hubs may for example have entrepreneur users who are fully or partially operating informally. In this way hubs in Kenya, and wider African contexts, may have particular aspects of hybridity that may not be present in hubs in more developed economies.

The following quotations illustrate the final aspect of hybridity we identified in hubs, that relating to the hybridity in their users:

> *"When we started there was a much clearer divide between NGOs which we weren't targeting and the private sector… but now in the last couple of years that has become much more blurred"* (Interview Hub Management)

> *"We look at whatever entrepreneur we are working with, identifying how what they want to do can have a wider impact on the society as a whole"* (Interview Hub Management)

> *"Personally I think, especially in developing countries, any type of private enterprise is beneficial assuming that they are not actively bringing about harm. So my view in the Kenyan context, my view is that any businesses that is paying fair wages and generating job opportunities is a social enterprise"* (Interview Hub Management)

These quotations illustrate the increasingly blurred boundaries and overlap between for-profit companies, not-for-profit organisations and the state in developing country contexts. Such actors are also often working in collaboration to tackle sustainable development issues. In the second quotation, management at one of the hubs highlights their efforts to catalyse the societal impact of all entrepreneurs they work with. Indeed as illustrated by the third quotation, what is and what is not a social enterprise in a country context like Kenya's remains contested (see Rivera-Santos et al 2015). Given this complexity, hybrid may again be a useful overarching descriptor for many of the organisations using hubs in Kenya.

In conclusion, we have explored what hubs in Kenya are, and in particular highlighted their multiple hybridities. This hybridity is evident in their purposes and strategies, in the models they adopt, the activities they undertake, in how they are funded, and lastly even in those they work with. In the next section we turn to what hubs do, and especially unpack their work as institutional intermediaries.

The Intermediary Work of Hubs

Providing Market Infrastructure

As highlighted previously the environment for start-ups and more established firms in Kenya is difficult (World Bank, 2017). Challenges range from high cost of registration to more material concerns like lack of affordable work space (particularly in Nairobi), unreliable power

supply and internet access, and high transportation costs, especially to and from rural areas. Through analysis of our data we first find that hubs play an intermediary role helping to address some of these challenges through the provision of market infrastructure. If intermediaries are "*agents that function as a means for bringing about an activity"* (Dutt et al, 2016: 820) then hubs facilitate entrepreneurship, wider business activity, and technology development through providing market infrastructure. For example, all three case studies provided affordable shared workspace, with this an important and valued part of their offering to users – often early stage entrepreneurs. They also offered relatively fast, affordable and reliable internet access, which is critical for the 'tech' ventures who make up a large segment of hub users. Hubs also facilitated access to wider business services for their users, for example professional legal and accounting services. Such services may be prohibitively expensive for early stage entrepreneurs in Kenya, whilst the number of trusted providers for such services in a Kenyan context is limited. The interview quotations below illustrate different facets of this market infrastructure intermediary role played by hubs:

> *"We are pretty much a traditional co-working space so access to affordable office space primarily. Everything is included for high end office but at a lower price also meeting rooms … so for example legal services, accounting and other necessary but expensive services that a lot of young companies shy away from because the price tends to be too high and so they companies don't think that they really need them. Or that they would end up spending a lot more money than they actually need to"* (Interview Hub Management)

> *"Rent was not affordable and would not come around easily. Being a start-up we didn't have a place where we could find affordable rent and still manage to pay the overhead costs to fund the business"* (Interview Hub User)

The importance of such market infrastructure for entrepreneurs, and even for more established businesses, especially in Kenya's developing tech sector, should not be underestimated. However, the co-working nature of this space also represents a further avenue through which hubs work as intermediaries.

Network and Relationship Intermediation

The following interview quotations illustrate the networking and relationship intermediation role played by hubs through the provision of co-working space:

> *"You are working with around 15 other companies that are at similar stages of their businesses so we help smaller businesses to kind of connect to one another through events and just helping them realise that they have links and sort of pool resources based on their needs and what skills the others can offer."* (Interview Hub Management)

> *"Here it is an open space where all sorts of people work from here. You find out what each other are doing and you even find someone who can help you with your current challenge. That is not something that you could necessarily find in an office"* (Interview Hub Management)

> *"When they come to Hub C they meet like-minded people who are trying to learn something, or who are good at Python or php…. you know it's the whole the idea of feeling like you belong"* (Interview Hub C User)

Through everyday interactions in this co-working environment entrepreneurs and firms were able to learn from each other. They were also able to pool resources, and develop collaborations to overcome challenges and pursue opportunities. This can be linked clearly with Armanios et al's (2017) definition of an intermediary a something that links two or more parties to bring about activities that could not readily happen otherwise.

However, hubs also intermediate relationships between users and external actors including corporates, universities and the state, as illustrated in the following quotations:

> *"I have had an opportunity to meet many different people … we meet the people or also county government officials at times. We go as community or select few. It acts as an entry point to corporations."* (Interview Hub User)

> *"So in a way you have helped solve everyone's problems. You have helped businesses earn their profits, entrepreneurs and start-ups to access labour, you have helped the young man and woman down there in X to access technology education as well as build solutions for the real world- for business. So we are talking to big non-profits and businesses out there asking if they can take in our talent, hire our talent to install some systems or solve the problems that they are facing"* (Interview Hub C Management)

From the perspective of individual users hubs play an important role in helping them to build their networks and relationships with actors both inside and outside the hub. Other comments in interviews to this affect included: *"the events in the Hub bring about connections"*, *"I have developed connections thanks to the very many events whereby people with different expertise who come together and share also learn"* and *"it creates that kind of synergy"*.

This network and relationship intermediation can be further unpacked and linked more explicitly to the addressing of institutional voids. Through facilitating connections between hub users, and also between users and external actors, hubs are helping various market actors overcome such voids. This is nicely illustrated in the second of the above quotations from an interview with management at Hub C where it is discussed how the actions of the hub in relationship intermediation have *"helped solve everyone's problems"*, including businesses, entrepreneurs and hub users. A more specific example of hubs intermediating to address institutional voids would be how through running networking events hubs help firms, both inside and outside the hub, to identify capable suppliers or connect with buyers, addressing product market voids. Another would be how through enabling network and relationship building hubs help firms, both inside and outside the hub, identify partners with desired skills to address labour market voids. In both these instances the fact that such relationships are facilitated through the hub is beneficial for trust development between parties. This is important in a business environment characterised by generally low levels of trust and weak contract enforcement - contracting voids – as identified earlier in the section of this paper on the Kenyan context. Interviewees further identified how hub enabled networking might lead to pooling of resources between users, and also connecting hub users with external investors and funders. In this instance hubs are playing an intermediary role helping firms to address capital market voids.

Additionally, through their work building networks and facilitating relationships hubs can been seen to act as intermediaries for innovation. They informally facilitate collaboration and shared learning between hub users which can lead to innovation. In extant literature, proximity, of

various kinds – at regional but also sub-regional and micro levels - has been identified as having a significant impact on the potential for collaboration between parties, leading to innovation (see Boschma, 2005; Marrocu et al 2013; Villani et al 2017). Hubs enable such proximity by bringing together entrepreneurs and firms. However, the firms using a particular hub are also often from similar sectors e.g. the focus of Hub A on tech ventures. As such, it can be expected that some form of more cognitive proximity develops between hub users (Boshma, 2005). Meanwhile, through the development of trust based relationships between hub users, and as suggested by one interviewee developing a *"feeling like you belong"*, hubs can also be seen to be encouraging social proximity. In extant literature such dimensions of proximity have been linked with the exchange of tacit knowledge and interactive learning with benefits for innovation (see Boshma, 2005).

In this section we have argued that hubs act as intermediaries facilitating network and relationship building by users. In so doing, they contribute to business development and the bridging of institutional voids, and can also help to catalyse innovation. In the following section the final aspect of the intermediary work undertaken by hubs, enhancing capabilities, will be discussed.

Enhancing Capabilities

Across the case studies differing approaches to skills development and training were observed. Hub B runs three structured training programmes: Hubcubation, NGOs for Profit, and Developing a Sustainable SME, each with their own target market. At Hub A there was no structured programme but rather individual skills development and training events that could be attended by users. In the case of Hub C, bootcamp style coding training was provided to users, whilst Hub C users also undertook outreach work in local schools and the community teaching tech skills. In all three cases these more formal activities are supplemented with informal learning and knowledge exchange between hub users as discussed in the previous section. This learning between hub users was often facilitated by management in the hubs who would at times also act as informal mentors and intermediaries at an individual level as illustrated by the quotation below:

> *"So we can as a team, and we do frequently get involved in their affairs to provide support. And we try to foster the culture of everybody helping each other kind of thing. I can also point you in the direction of the person that could help you with your problem"* (Interview Hub Management)

Through analysis of data from the cases it was found that hubs work to build skills and enhance capabilities in three main areas. First, and as illustrated by statements like *"we are learning about different things such as pricing"* and *"you are taught how to showcase your products"* users developed their core business skills and knowledge. Secondly, and especially in the case of Hub C users/members and wider school students and community members gained technical skills (often in computing). This is illustrated in statements like *"I once did not know how to code. I can now write a whole application and mobile application"* and (users) *"come without a skill and we build you up"*. Finally, in the case of Hub B particularly, users and participants on their programmes gain softer skills in people management and self-awareness, as illustrated in interview statements like *"I developed soft skills…when you meet strangers you chat, brainstorm"* and *"they are also encouraged to take part in personal development because at the end of the day an entrepreneur is a human being"*.

These activities can also be understood through a lens of intermediation and institutional voids. First, hubs are intermediating to address labour market voids. For example, the work of Hub C developing tech capabilities in Western Kenya at a school level, university level through placements, and community level. These upskilled individuals then go on to work on projects for private, public and third sector organisations, with Hub C acting as a bridging *"agent"* or *"broker"* (Dutt et al, 2016; Howells, 2006). Hubs working to enhance the skills and capabilities of users, particularly core business skills, can also be linked to addressing product market voids and the overall development of more capable and reliable suppliers and buyers. Finally, training in banking and financial management can help user entrepreneurs and firms overcome or bypass capital market voids.

To conclude, in this section we have explored what hubs do. Through analysis of the data we have unpacked and identified their intermediary work as they provide market infrastructure, encourage network and relationship development, and enhance capabilities. In the next section we evaluate the potential and limits of hubs in Kenya and beyond.

Hubs in Kenya – Challenges and Potential

> *"We see a lot of co-working spaces right now but what I don't see a lot are sustainable models. I think they will be challenged if we look again in a couple of years"* (Interview Hub Commentator)

The above quotation illustrates a key challenge faced by all of the case study hubs, and hubs more widely, that of finding a financially sustainable business model. In one of our cases this had proven particularly difficulty, as is apparent in interview comments like *"we cannot say the hub has been financial sustainability"* and similarly *"while at it we need to figure out how to make money ... it has taken us too long to be sustainable"*. In this case study, a lack of sustained financing was also suggested to be curtailing the hub's activities and impact, for example *"we are limited in scope with what we can do"*. Meanwhile, in another case study, the need for a clear business case for any services offered to users was strongly emphasised in interviews. This point is illustrated in the quotation below, and is an important consideration for hubs elsewhere – especially those more socially oriented – of the need to ensure that there is a sound financial rationale for services offered to users:

> *"We are very much focused on businesses. I mean you have to pay to pay to be here so even though it is cheaper than getting your won office, it's still not free. It's market price and there is no subsidy of sorts, its market prices for shared services."* (Interview Hub Management)

Finding a business model that works is clearly a challenge for hubs in Kenya. This may be especially the case for hubs in more rural and provincial locales. This should be recognised and addressed by Kenya's policy makers as they look to expand hubs across the country. From a societal perspective, this funding precariousness, a situation described by one interviewee as *"unstable",* may constrain the impact of hubs, especially if or when they fail, but also during their operations where it will limit what they can offer users.

Overall, across the case studies, hub interaction with Kenya's government was observed to be limited. We recognise that this is not the case for all hubs in Kenya, for example as noted in one interview *"I think there are other institutions have done that better"*. It may also reflect the fact that in two of the three hub case studies expatriates played a significant role in their

management, and as commented by one interview *"it's easier to dismiss government if you are not Kenyan I think, because you may not feel as equipped to navigate the system"*. Clearly there are also risks associated with engagement with government, and this may not be an approach suited or desired by all hubs. Nevertheless, there can be opportunities from such engagement, for example to gain access to further resources so as to expand what hubs offer in training and skills development, and in making hubs more sustainable. Such engagement might also enable hub users to develop links with the state e.g. in state procurement of goods and services. It is also increasingly suggested that cross-sector partnerships are required to tackle complex sustainable development challenges – including many of those faced by Kenya and other developing economies. Hubs have the potential to act as forums for such collaboration. Finally, through deeper engagement with state actors, hubs could come to play an intermediary role to address regulatory type voids. For example, they might work with Kenya's government to tackle some of the regulatory challenges and uncertainties faced by the country's entrepreneurs.

However, the state is only one potential actor hubs could look to strengthen their relationships with to enhance their societal impact. Others include international donors, the corporate sector, and other hubs in Kenya and beyond. In the case of the latter whilst it was found that hubs would share information on events, and in some instances materially support one another during times of hardship and start-up, these interactions were generally quite ad hoc. The limited nature of these connections is illustrated by the following interview quotation:

> *"it's more on a personal level so like every 6 months …we are supposed to at least…founders of the different hubs are supposed to meet for breakfast or just see each other and keep in contact about how we should get to work together…which we never really get round to do. So I would say there's definitely a sense of collaboration and community within the founders. But overall it's more like information sharing of say events"* (Interview Hub Management)

Whilst there are benefits to hubs working alone, and costs and risks associated with building stronger inter-hub relationships, there are opportunities and potential benefits of doing this. Possible benefits include: avoiding duplication of activities and services; achieving greater economies of scale; presenting a collective voice to Kenya's government on areas of shared interest; fostering more joined up local, regional and national innovation systems; and learning from each other to develop best practice. Finally, across the cases other challenges identified included: the need to develop robust systems for mapping and measuring impact, which is especially important if hubs seek to access donor and government support; how to maximise opportunities relating to alumni; and a possible overemphasis on tech, versus other types of entrepreneurial activity, including social entrepreneurship with only one of the cases tailoring their programmes and activities for social venturing.

Discussions in this section of the paper especially have implications for policy and practice in Kenya and beyond. For practitioners, analysis of the cases reveals challenges and areas of weakness amongst hubs, but also where action could be taken to extend and enhance what hubs do and their positive impact on Kenyan society and beyond. For policy makers questions and areas of concern are also raised, for example whilst Kenya's government aspires to have a hub in each of its 47 counties (World Bank, 2014a) it remains to be seen how this can be best achieved, and in a way that is sustainable and which maximises its positive societal impact.

Conclusions

This paper has examined hub organisations in Kenya. Through in-depth qualitative research with three case study hubs, it has first provided insight on what hubs are, finding that they are characterised by multiple forms of hybridity. It has secondly examined what they do, with hubs identified as intermediaries that through providing market infrastructure, facilitating network and relationship building, and developing the skills and capabilities of entrepreneurs and firms, work to bridge the institutional voids prevalent in Kenya. Finally, the challenges faced by hubs in Kenya have been examined, as well as the potential of hubs as catalysts for entrepreneurship, innovation and wider positive social change and development.

This research contributes to knowledge and the literature in a number of respects. It first contributes to the literature on hubs and our understanding of their characteristics by unpacking and identifying their multiple hybridities. This hybridity is an important part of what hubs are, creating tensions and challenges, but has received hitherto limited recognition and attention in extant literature, especially the multiple dimensions of their hybridity. From the perspective of hybrid organisation scholarship this study also contributes by providing insights on a form of hybrid that is still understudied. Our research furthermore contributes to literature on hubs by identifying them as a type of intermediary organisation. More specifically, they are conceived of as 'institutional intermediaries' that work institutional voids, with three main aspects of this intermediary work identified through analysis of the data. This more in-depth and conceptual perspective on what hubs do is again needed, with literature on hubs to date often being written by or for practitioners. The better understanding of what hubs are and what they do provided by this paper has benefits for wider scholarship on intermediaries. For example, in literature on intermediaries there is little recognition of hubs as a type of intermediary. Reflecting this, there has also been this little consideration of how hubs differ and are similar to other types of intermediaries like accelerators and incubators. A further contribution of this work relates to its focus on hubs in a specifically Kenyan context. To date, relatively few studies have examined intermediaries, and hubs more specifically, in Kenyan and indeed African contexts generally. Our work helps to address this gap, and the wider paucity of scholarship on Africa, utilising African data, across the management field. Our study furthermore examines the interplay between hubs and their institutional environments, with the type of institutional work undertaken by hubs found to reflect the institutional arrangements present in a Kenyan context. One area for future research would therefore be to compare the work of hubs in other parts of the world with those in Kenya, including more economically developed countries, to see how if at all this work varies reflecting institutional differences. Finally, it is reiterated that in assessing the challenges faced by hubs in Kenya, and their potential, this research has implications for policy and practice.

In addition to the cross country research suggested above there remains significant scope for further study of hubs in Africa, and more widely. For example, scholars could compare hubs with different types of relationship with governments. There is also a need to examine and compare hubs with different funding models, and that focus on different types of entrepreneurs and organisations. Such work would contribute towards efforts to develop a clearer typology of hubs. In this paper we have also noted the growing enthusiasm towards hubs on the part of governments, donors and multilateral institutions, yet we still need to better understand the overall impact of hubs, on different groups, with this also a priority for many hub practitioners. The key areas of hub activity identified in this research might help to inform such an exercise.

Finally, we have focussed on the work of hubs as 'institutional intermediaries' in this paper, but there is scope to further examine the other kinds of intermediary work they do. In conclusion, in this paper we have discussed what hubs are, what they do and what their potential is. In so doing we contribute towards knowledge about this dynamic, emergent, and still understudied organisational form. Nevertheless, further scholarship on hubs in Africa and beyond is needed if we are to keep pace with developments occurring on the ground.

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