Collaborative Innovation:
A shared discourse within Phnom Penh’s co-working community?

Justin Pearce-Neudorf
Malmö University
Communication for Development
One year master
Degree project (KK624C) - 15 credits
Supervisor - Tina Askanius

Spring 2014
Abstract: This paper explores the existence of a shared community involving the members, users and organisers of three collaborative work spaces located in Phnom Penh, Cambodia. Situated as part of an emergent global phenomenon, these spaces, despite having notable differences, share many important features and are, I argue, part of a knowledge exchanging cluster of grassroots entrepreneurialism and innovation-oriented organisations, groups and events in the Phnom Penh area. I explore this cluster as a community in two ways: firstly through the mapping of a knowledge architecture locating the spaces and their actors as nodes within a flow of relationships and activities, secondly, via a networked ethnographic inquiry tracing these flows to actors within the network through qualitative research methods. In doing so I reveal the degree to which there exists a shared community perceived by the users and organisers of these spaces as well highlighting potential opportunities for greater sharing of knowledge, ideas and experience. The paper finds that though a nascent community does exist, there is still significant variance in the levels of cognisance of this community by the different actors as well as in the approach to its engagement. Despite this, there remains, in large part, a shared set of goals and values paving the way for future community collaboration.

Keywords: coworking, co-working, collaboration, innovation, technology, knowledge exchange, start-up, entrepreneurialism, hackerspace, makerspace, C4D, ITC4D, Phnom Penh, Cambodia
## Contents

List of figures ................................................................. iv
Overview and the research question ................................ 1
Structure of this paper ..................................................... 2
The literature ...................................................................... 4
The co-working, innovation space phenomenon ................ 4
What is a space? ............................................................... 4
Defining them .................................................................... 5
Knowledge hubs .............................................................. 7
What happens in these spaces? ........................................ 7
Innovation ......................................................................... 8
Knowledge sharing ........................................................ 8
Grassroots entrepreneurialism ......................................... 8
Role within technology-based fields .................................. 9
Role within international development ............................ 10
Social innovation ............................................................ 10
Bottom of the pyramid solutions ..................................... 11
Leapfrogging possibilities for developing economies .......... 12
Entrepreneurship as an economic engine ......................... 13
Global context and the knowledge economy .................... 14
Critical assessment ........................................................ 15
Methodology .................................................................... 17
Ethnographic inquiry ....................................................... 17
Organisational ethnography ............................................ 17
Network ethnography ..................................................... 18
Auto-ethnographic and action research ............................ 19
Qualitative interviews ..................................................... 19
Spatial analysis ............................................................... 20
Knowledge architecture, clusters, hubs ............................ 20
Conducting the research .................................................. 22
coLAB ............................................................................. 22
The space ......................................................................... 22
The people ....................................................................... 23
SmallWorld ...................................................................... 24
The space ......................................................................... 24
The people ....................................................................... 25
Development Innovations ................................................. 26
List of figures

Figure 1: Spatial mapping of Phnom Penh knowledge hubs ............................................. 29
Figure 2: Clustering of Phnom Penh knowledge hubs .................................................. 30
Figure 3: Phnom Penh knowledge architecture ............................................................. 33
Overview and the research question

The rise of coworking and innovation spaces, sites of varying degrees of professional and social collaboration often centred on information technologies and entrepreneurship, has not been exclusive to advanced or post-industrial economies. Indeed, in many developing countries we can see similar developments and though the economic and social determinants underpinning their rise in these contexts are no doubt different than in richer countries, they are related. Across contexts we are able to observe clustering behaviour wherein many of these sites emerge, planned or otherwise, in proximity to each other, be that sharing localities, resources or inter-exchange of people and ideas.

This has been the experience thus far in Phnom Penh, Cambodia, where over the past three years a number of similar spaces have emerged sharing similar nominal aims. This paper looks at perceptions and experiences within three such spaces: two established ‘grassroots’ and self-funded spaces including one expatriate-led space, ‘coLAB’, the other Cambodian in origin and operations, ‘SmallWorld’; and one recent entrant to the community, a large, well-funded United States Agency for International Development (USAID) project being implemented by private management firm Development Alternatives, Inc. (DAI).

Alongside these spaces co-exist a range of organisations, profit and non-profit, and events, through which circulate a wide variety of people. The central research question of this paper is, to what degree is there a shared community experienced by the users and organisers of these spaces? At first glance it appears that there is significant interaction and exchange amongst participants but is this happening in a reflexive manner? How do the people involved view their relationship, and the relationship of their respective collaborative space, to this community and what do they see as opportunities and obstacles working towards greater sharing of knowledge, ideas and experience? In addition, the context within which this community operates consists of specific socio-economic realities, and there is the analytical question to be addressed of how this community links with and is embedded within these.

These questions have relevance for communications for development theory and practice, as at the heart of these processes lies collaboration and the sharing of knowledge, ideas, skills and experience. Indeed, the central value of these new ‘spaces’ may be fostering communication between participants; participants diverse in professional association, training and interest, and in particular to my cases in Phnom Penh, diverse in their experience in the
global workforce with participants being variously expatriate knowledge workers and Cambodian entrepreneurs, students and tech hobbyists.

As a driver of sustainable social and economic development, innovation is considered key within what can be seen as an emergent globalised knowledge economy (Brito, 2013; Hornidge, 2011). For developing countries, it has been often assumed that they are outside of these shifting patterns of labour and knowledge generation. Or at least running parallel, connected but not included. I argue that this is not the case and that opportunities exist for residents of developing countries to engage and benefit from global information technology flows and that this has benefits not just for them as entrepreneurs but spinoff effects for their community via increased knowledge exchange and further economic and social opportunities.

**Structure of this paper**

I begin by conducting a review of the relevant literature concerning collaborative workspaces and the relevance of the communicative processes happening within them to development and entrepreneurial innovation. Using this as a framework, I begin by exploring the nature of this global trend of shared collaborative work environments by establishing what they are. Firstly, by complicating the understanding of the word ‘space’, a term often utilised within the discourse and with varied meanings and uses. And secondly, by introducing a rough typology to assist in the understanding of these formations and to better delineate similarities and differences amongst them. Finally, I deploy a model of the spaces as knowledge hubs, often positioned as nodal points within clusters and illustrated via the use of a knowledge architecture.

Expanding on this, the practices within these spaces will be examined along three axes; defining innovation within the context, looking at knowledge exchange and its meaning here, and finally, positioning these types of hubs or spaces as sites of grassroots entrepreneurialism and generation of novel employment forms.

Next, I briefly explore the origin and particular role of this phenomenon within the technology, particularly information technology, and ‘knowledge-based’ sectors.

This leads to an examination and demonstration of its relevance for the field of development and the alleviation of global poverty. With this in mind, I look at these sites as loci of social innovation and the possibility for new knowledge being generated by and for people and communities at the bottom of the pyramid. I also explore the possibility of grassroots entrepreneurialism, again with emphasis on information technologies, as a means for developing economies to leapfrog through the application of innovations established elsewhere.
without relying on endogenous innovations alone. This is situated as part of a broader establishing of entrepreneurship as a significant engine for economic development.

Next, I locate the trend within a global move towards knowledge economies wherein increasing emphasis is being placed upon knowledge generating practice and business shifts are increasingly demanding innovation and exploitation of novel concepts to drive economic growth. This process has multiple effects on workers and providing both opportunities for grassroots entrepreneurialism as well as presenting challenges to the new forms of labour relationships emerging within.

Finally, these processes need be situated within a critical analysis of the social and economic apparatuses ordering globalised capitalism and the last section of the literature review will examine the neo-liberal logics employed within the discourses of entrepreneurialism and post-industrial innovation. As is demonstrated, these processes are not happening in a vacuum and the varied attitudes of participants and organisers and their aspirations will illustrate the varied degree of political engagement and conscious navigation of this terrain.

The second chapter of this work is an explanation of the methodologies deployed in my research. The primary tool deployed as part of this research is an ethnographic inquiry; here I draw on multiple frameworks and review applicable elements of both organisational ethnography as well as network ethnography. This is followed by a detailed explanation of the qualitative interview process that forms the bulk of my research.

Complementing the ethnographic investigation of this community and its constituent collaborative spaces, I also utilise a spatial analysis. Its methodological deployment is explained through the inventory of a knowledge architecture framework with which I construct a topology of Phnom Penh’s coworking or innovation community. My three cases are thus situated as nodal points within a cluster of events, people and relational practices.

After profiling the participant spaces and the interview respondents, I turn to the analysis of the research. I first draw attention to the spatial and relational findings where I present a number of illustrations mapping the geographic clustering behaviours of the community as well as a knowledge architecture highlighting the formal and informal relationships between community participants and partners. This is followed by an analysis of the qualitative interviews wherein the fundamental questions to this research begin to be answered.

Within the final chapter, I offer summary findings and concluding remarks in regards to the research as well as offer further avenues of potential research.
The literature

The co-working, innovation space phenomenon

Various terminologies have been deployed in their description: innovation, tech, hacker, maker meets space, lab or hub and their exact structure and function has likewise been varied. However, an emergent global trend is clear. Beginning in advanced economies in the mid-2000s, semi-social, semi-professional places for collaborative work, knowledge exchange and generation of innovation have sprung up across the globe and presently number in the many thousands (Abram, 2013; Foertsch, 2011; Spinuzzi, 2012). They are typically associated with technology and information workers, though their membership can be quite varied, their degree of professionalisation likewise can vary from highly corporate to the highly bohemian, and can range from entirely apolitical to centres of political activism. Despite this, they generally share some core functional elements (Marquez, 2008; Spinuzzi, 2012). They offer space for independent individuals or small teams to work on projects (professional or not) outside the realm of typical office relationships. They often offer meeting rooms for members to hold events and many engage in training or skills workshops. Equipment and tools are often available for use and can include everything from typical office equipment to micro-scale manufacturing tools such as 3d printers. Most also offer some sort of social element, be it regular social meet-ups or café-like seating areas (or indeed actual cafes) to facilitate informal interaction.

WHAT IS A SPACE?

Space is an important concept both within this research paper but also within this emergent phenomenon. It holds multiple meanings in this context and is deployed in multiple ways; in one sense space refers to the physical locality of the coworking or hack space, its premises and the physical amenities on offer, alternatively, space can be in reference to the creation of a social and interactive experience outside the normative bounds of capitalist relations, it being used in the sense of ‘opening up space’ in which to do things normally not allowed or discouraged.

The commonly used notion of place is as a physical locality defined by some boundary. Moving beyond this, I want to draw on the idea of place as socially-constructed phenomena, as a product of cultural and social practice and behaviour. In an almost dialectic way, it can be seen that as the social processes and functions come to shape and define space and geography, so too do space and geography come to shape the social practices and behaviours of a community (Cresswell, 2004).
With this caveat in mind I draw on Arturo Escobar who writes, “that place, body, and environment integrate with each other; that places gather things, thoughts, and memories in particular configurations; and that place, more an event that a thing, is characterized by openness rather than by a unitary self-identity” (Escobar, 2001, p. 143). The boundaries of what we call a place or space are not fixed but fluid, shaped by geographic facts but delineated by socio-cultural forces.

This links to what Doreen Massey refers to as ‘power-geometry’ in her questioning of the realities of the time-space compression touted as being part of contemporary globalisation. Rather than taking claims that the benefits of information technology and affordable international travel are benefiting all in the same way, that the world ‘is becoming smaller’ for all, she problematizes this with the addition of considerations of race and gender and posits that the former analysis is the product of seeing the world purely in terms of capital (Massey, 1997). The particularities allowing some people to move freely, some to be forced to move, while others may be unable or uninterested, challenges the idea of space and community as fixed and provides a useful means of understanding place as, “articulated moments in networks of social relations and understandings” (Ibid.).

In the context of the collaborative spaces being examined, this networked understanding of place is relevant particularly in relation to the informal interactions often touted as benefits of such spaces. The liminality of certain spaces, for example corridors, have been researched as key to creating unscheduled interactions that are freed from normal expectations (Iedema, Long, & Carroll, 2010). Freed to some degree from defined expectation, people in such places can be more open to expression and exchange that may otherwise be impeded. In this sense, they can be seen as connecting spaces, connections between fixed nodes of expectation within a network and offering interactive affordances that transgress, to some degree, otherwise expected or demanded behaviour.

DEFINING THEM

I offer a simplified typology of these collaborative spaces below that attempts to group many of the spaces under functional headings. In practice there exist many blended versions of the types described below. In addition, I only aim to categorise the independent or quasi-independent versions of these spaces. Many corporations have created similar iterations of these ideas but intended for their own internal use (Moultrie et al., 2007) and these are not discussed; likewise, I do not attempt to include the larger either civic or university-led institutions that may bear some resemblance including such models as ‘technology parks’, or ‘business innovation centres’.
Hackerspace – Born out of the ‘hacking’ and free-software communities of the 1990s and 2000s, these spaces are typified by their commitment to creation of alternative places, where ‘people could go and work in laid-back, cool and non-repressive environments’ outside the direct mechanisms of neo-liberal economies (Grenzfurthner & Schneider, 2009). Some within the movement identify hackerspaces as a descendent of countercultural movements originating in the 1960s and draw links with movements such as squatting and DIY sub cultures. Many people who use these spaces identify as supporters of free and open-source software movements. As the name implies the spaces are most directly intended as places to ‘hack’, that is, solve technical problems in sometimes lateral ways using imaginative or unexpected solutions, often for the sake of solving rather than a specific or direct benefit, economic or otherwise. They are sites of interpersonal knowledge sharing and ‘learning through doing’ and often have extensive libraries of tools on offer to members who usually pay a membership fee for access to the space.

Coworking Space – A more recent evolution is the coworking space, a term first used in 2005 by San Francisco based Spiral Muse (Spinuzzi, 2012); referring to itself as a new kind of collective workspace providing a place for the large number of independent professionals working in the software and web development communities both to work and to network with each other. Places under this typology can vary tremendously, from totally apolitical corporate-inspired atmospheres to self-consciously aware community spaces playing host to social events and offering more than merely a desk. I would argue that those most firmly in the former camp are best conceptually thought of as office space rentals and their use of the coworking moniker is unhelpful. Indeed, the coworking manifesto (Twining, 2013) makes extensive reference to community, thus spaces lacking this intent could be seen to fall outside this designation. These spaces, are generally used by a wide range of independent professionals though those in the creative or knowledge-based industries predominate (Foertsch, 2011). They can resemble the hackerspace but with more of a focus on professional work and less recreational or hobby usage of technology. They tend to be funded through user fees, whether based on a membership model or on a usage (eg: daily fees) basis.

Makerspace – A makerspace is again a recent formative concept taking the idea of a hackerspace and opening it to wider audience. Focussed on the idea of DIY creation and sharing, these spaces have sprung up both independently and also increasingly are being imagined as part of the future of libraries and schooling (Abram, 2013; Balas, 2012). They are perhaps best conceived of as depoliticised hackerspaces with a lessened focus on software and programming. They tend to promote themselves via their tool collections which can include such items as 3d printers or other tools of micro-scale manufacturing as well as skills training and other workshops on offer.
Innovation Lab – iLab or tech-hub or similar, these are often the product of a specific development or government-sponsored intervention. These spaces often incorporate elements of both coworking spaces and makerspaces in an attempt to foster local innovation and spur economic or social development in a city or region. They sometimes include a business start-up incubator program and can often have corporate sponsorship in the form of subsidies or technical support via visiting experts. The archetypal example of this formation is the iHub Nairobi founded in 2008-9 (Hersman, 2012).

Knowledge hubs

Among the key similarities of these spaces is the type of work people are engaged with within them, and most of the activity could be considered knowledge-based or creative. It has been noted that despite predictions that information technologies would allow for the wide dispersal of knowledge workers, freed from a need to share proximity and able to ‘telecommute’ from any local, there has been a continued need for knowledge-based industries to form clusters (Henry & Pinch, 2006). This is arguably due to the need to share knowledge, particularly tacit knowledge, and that the face-to-face relationships and connections necessary for this to occur cannot occur remotely (David & Foray, 2002). The codification of tacit knowledge is always a partial process and the need to learn through direct observation remains integral.

Knowledge production is a social process that requires interaction, and may take place to a certain extent, in cyberspace; however, innovation and discovery are also driven by emotions, fun and anger, excitement and frustration, which are projected at persons in direct interaction. (Evers, Gerke, & Menkhoff, 2011, p32)

To map these clusters, to illustrate the relationships between hubs within them, Evers et al. suggest the framework of a knowledge architecture, a modelling of knowledge generating institutions, be they universities, corporations or SMEs, that are the component pieces of a knowledge cluster (Evers, Gerke, & Menkhoff, 2010; Evers, Gerke, et al., 2011). I propose that an understanding of the spaces examined in this research, and an understanding of the broader movement of coworking and innovation spaces, is assisted using this framework. Within the Phnom Penh community I demonstrate the existence of a cluster of similarly focussed organisations and groupings, with interchange of people and ideas, which generates knowledge and facilitates this needed face-to-face interaction for generating innovation.

What happens in these spaces?

Part of this discussion is understanding the activity within these spaces. Beneath the self-evident activities of people working on their projects or work, running or attending training
events, socialising or building or ‘hacking’ some sort of project, what are the relevant processes at play? I explore three of these, in the context of the literature, below.

**INNOVATION**

One of the aims of many of these spaces is to generate innovation, that is the putting into practice of new inventions; new in one of three senses, either new to the world, new to the context of implementation or new to the firm deploying them (Szirmai, Naudé, & Goedhuys, 2011). Through hosting a diversity of individuals and small teams, the hope is that there can be a degree of cross-pollination of ideas and through varying degrees of formal and informal problem solving, creative and novel solutions can be generated (Paulus & Nijstad, 2003).

This has been a strategy employed both within the technology sector, for example within the hacker and open source software movements (Lindtner & Li, 2012) as well as within the development and social enterprise sectors (Maurya, Vipin, Ramesh, Hiranmay, & Anil, 2014) wherein feeding back solutions in an open manner leads to further innovation and problem solving elsewhere.

**KNOWLEDGE SHARING**

Knowledge exchange and skills transfer is often one of the key features of collaborative spaces and one of the benefits that acts as the biggest draw for potential participants. This can take place both informally and formally with the latter taking place in workshops and courses organised by spaces, members or visiting trainers. Within collaborative environments such as those under study, the process of learning has been described as tending towards a ‘sideways’ and exploratory process in contrast to a more sequential or ‘bottom up’ sequence that is typical in formalised education (Alfaro, 2013).

The diversity of participants has been identified as an important component of these processes. Indeed with too heterogeneous a membership, groups have a tendency to converge rather than the divergent thinking necessary for the generation of novel solutions (Milliken, Bartel, & Kurtzberg, 2003). By holding events covering a range of topics, or covering a breadth of material surrounding a given subject, training events doubly serve to bring in new membership to spaces but also to inspire and encourage new developments for existing membership.

**GRASSROOTS ENTREPRENEURIALISM**

Grassroots entrepreneurialism as opposed to entrepreneurialism in a more general sense may be contrasted by its being endeavoured by individuals or small teams, rather than larger institutions or corporations, who, “utilise positive opportunities in the market by creating and growing new business firms” (Gries & Naudé, 2011, p. 217). Grassroots-based innovators are
also able, due to their community-level observations, to identify and exploit innovative niches not otherwise employed (Seyfang & Smith, 2007). In the context of the collaborative workspaces under scrutiny in this paper, this often takes shape in the form of the technology start-up. A small team or individual focussed on developing a product or service utilizing internet or software based technologies, often with limited funding. Examples of this include small design or software development teams, people developing mobile applications, or even social entrepreneurs developing new hardware solutions to address social problems.

There are a myriad of entrepreneurial opportunities being explored in such spaces due to the tangible and intangible benefits of starting one's business is such an environment. One of the most recognised is the access to other professionals doing related work, beneficial both in terms of the aforementioned knowledge exchange but also due to the networks and ties that can help a new business mobilise resources (Aguiton & Cardon, 2007). By sharing resources (rent, electricity, internet charges, etc.) there is also the benefit of a lowered barrier to trying out a business idea. If it proves successful, a firm can ‘graduate’ from such space into their own premises or if not successful, the individual can easily reformulate their work and try again without as severe an economic penalty were they to have invested in their own space from the outset (Bennett, 2010). This sharing of resources and technologies and the consequential lowering of the barriers to entry has been described by some as a means of democratising the means of design and manufacture (Tanenbaum, Williams, Desjardins, & Tanenbaum, 2013).

**Role within technology-based fields**

As noted earlier, the rise of collaborative workspaces is tied, not exclusively but significantly, to the technology and software fields. New media and web-based firms have been identified as needing to be relentlessly innovative to ‘keep ahead of the curve’ and remain competitive (Girard & Stark, 2002). The opportunities for collaborative engagement and knowledge sharing present in such spaces could be seen as beneficial in this aim.

The internet has become perhaps the prime source of technical knowledge exchange for people in these fields (Davison, Ou, & Martinsons, 2013), offering new avenues for exchange and serving as a so-called ‘third place’ outside of either work or home (The New Media Consortium, 2007). Collaborative spaces, though being site to much work, likewise blur these boundaries between work and home, between professional and recreational and could be seen as a cultural and economic response to the lack of physicality afforded by new web-based information flows. It has been argued that software development has shifted over the last decade from large corporate, hierarchical and vertical forms to horizontal network-based cooperative approaches valuing interdependence, and that the rise of coworking and collaborative spaces is a manifestation of this same shift, offering casual interactions and weak
ties between participants that allow for periodic engagement and disengagement on their own terms (Aguiton & Cardon, 2007; Girard & Stark, 2002).

Role within international development

Amongst recent technological developments, communications and information technologies and their attendant economic consequences have particular relevance within the field of development. Amartya Sen has pointed out that unlike many other private sector technology developments, information and communicative technologies differ in that they benefit not only the consumer of these technologies but also their broader communities (Sen, 2010). There are snowballing effects for communities who make use of such technology as they engage with a global interactive culture.

“The important issue is what we can do with all the technologies that are available. The right way of seeing IT is also not to cast it in terms of what we can do on the basis of our own culture, unaided, because we do not have any unaided culture. IT has become an interactive culture across the world, and the important question is how we can make people more functionally efficient, not just with their own things, but with everything—the global, as well as the local.” (Ibid)

Despite years of failed endeavours within the realm of ITC4D (Dodson, Sterling, & Bennett, 2013) there remains a number of significant axes of relevance for international development including social and technical innovation, opportunities for economic growth and the possibility for poorer countries to experience accelerated development through innovative application of global information technologies. In addition to its relevance and application within the world of economic development, the ongoing crises around food security, the environment and energy production, to name a few, demand the building of systems and policies that harness knowledge and information technologies to shape innovative technological applications that aid in the pursuit of sustainable development (Brito, 2013).

Social innovation

Technical and business innovation is a goal pursued by many making use of collaborative spaces, but with regards to the aims of international development agencies, NGOs or individuals trying to improve the quality of life for the majority of global citizens living in poverty, social innovation or the generation and deployment of novel ideas to address social problems and strengthen communities, is perhaps more applicable.

Too often it appears the poor are articulated as the objects within the discourse of digital access and innovation, rather than as subjects of their own ‘digital imaginaries’ (Liang, 2010). Open spaces can provide an avenue for the people whose lives are most invested in a particular
locality to articulate their own experiences and problems and, ultimately, responses to the issues they face.

Those situated at the ‘bottom of the pyramid’ are not poor in ideas, creativity and knowledge. Experiences with social innovation programs such as the HoneyBee Network, an ‘open innovation platform’ linking students to small entrepreneurs and enterprise, have been extremely successful in India solving problems within the informal sector through knowledge exchange and increasing the intellectual participation of communities (Maurya et al., 2014). Anil Gupta, founder of the HoneyBee Network states, “Enabling local communities and individuals to convert their ideas into products and services - by blending modern science and technology, design, and risk capital - constitutes the heart of grassroots innovation” (Gupta, 2013). It is easy to imagine the ways in which open collaboration spaces can play a part within this process.

Social innovation can be seen as proactive or intentional practice, and while it is impossible to ‘make innovation’ it is possible to proactively pursue the conditions for its emergence. Community and the space within which it operates can be seen as the base of this process (Surman, 2013).

**BOTTOM OF THE PYRAMID SOLUTIONS**

These ‘bottom of the pyramid’ solutions are increasingly relevant after years of failed development interventions, particularly in the field of technology have shown that external solutions to problems often miss the mark (Dodson et al., 2013). The seemingly endless introduction of new cook stoves for developing economies being one such example of this. This lack of sustainability and context-appropriateness can be seen in terms of the relationship between north and south, that ICT4D is in fact digital capitalism ‘looking south’ and in that in doing so acts as a ‘prism’ for neoliberal globalisation and its attendant problems (Pieterse, 2006).

By allowing people most affected by poverty, those most connected to the economic and social factors at play, to guide the innovation process, we can hope to overcome a number of significant challenges: addressing specific and local issues while still pursing wide scale diffusion; creating solutions that are context appropriate while still aiming to address contextual problems; and employing project-based solutions to problems that ultimately require structural change (Smith, Fressoli, & Thomas, 2014). Open collaborative spaces can provide reflexive space wherein those most impacted can develop solutions and respond to these challenges through their own ingenuity which may also lead to applicable lessons for application elsewhere, a greater sense of empowerment for participants and their communities spurring further discussion of local issues and longitudinal change, and by revealing structural impediments to change as the ‘impossible becomes possible’ by virtue of their engagement.
Increasingly we can see the possibility of ‘bottom of the pyramid’ to ‘bottom of the pyramid’ solutions and a shift away from the notion of technology as ‘transfer to’ and ‘imitation by’ those in poor countries (Soete, 2013). Indeed as more focus is turned to the idea of context-appropriate solutions, we see not only knowledge exchange horizontally but in fact ‘upstream’, to richer or more developed economies and their own innovation communities looking to apply the knowledge gained elsewhere. This shift is of significant consequence as it can offer a role to individuals and communities erstwhile marginalised from the discourses of technology, ICT and innovation, and that role is one that can provide numerous opportunities both in solving their own contextual problems but also in offering solutions to the global market.

**LEAPFROGGING POSSIBILITIES FOR DEVELOPING ECONOMIES**

Of note here is the possibility of countries and communities that are less developed to ‘leapfrog’ and develop their technology and ICT sectors at a rapid pace, in part due to the very fact that they are ‘late comers’ to the adoption of these technologies adoption. Given the global nature of technological diffusion at this stage, it is possible for individual entrepreneurs, firms and state actors to innovate in their specific context through deploying now globalised technological tools without having to shoulder the research and development costs of these same technologies (Szirmai et al., 2011). The archetypal example of this has been the wide diffusion of mobile phone technologies wherein many developing economies have bypassed the fixed-line phone systems of the 20th century and jumped straight into the realm of internet enabled mobile phones. The speed with which these technologies have been adopted and their use as both the tools to build a product and as a global platform to distribute the products being built, have allowed the rise of software development and other similar knowledge-based firms in countries likely unimaginable even twenty years ago. The rise of out-sourced jobs in these sectors has been a boon to those firms and countries most attenuated to this trend. Indeed the economic benefits for a country attracting this type of labour have proven much greater than were its citizens travelling overseas for temporary work (Das, Raychaudhuri, & Roy, 2012).

Others have pointed to the short-lived nature of the comparative and competitive advantages that poorer countries benefit from (Audretsch & Sanders, 2011). They are argue that attention should be shifted from attracting foreign direct investment, to policies building local capacity to absorb mature technologies and to encourage local entrepreneurs to take advantages of opportunities in global markets, which can deliver longer lasting benefits and an economic system much more robust in the face of market shocks and economic slumps in the advanced economies.
The experiences of Japanese software firms operating in China have been a good example of this process (Takahashi & Takahashi, 2013). Over a period of ten years it was observed that the close ties between what started out as purely out-sourced lower-level tasks from the Japanese firms, gradually morphed into more complex and innovative processes handled by increasingly competent Chinese firms. These Chinese firms went from providing the lowest level of outsourced programming labour, to a foreign client, to eventually standing as their own software firms, employing the skills and knowledge gained in this process to their own products for the Chinese market.

ENTREPRENEURSHIP AS AN ECONOMIC ENGINE

The impact of entrepreneurship as an economic engine, particularly in the case of lesser developed economies cannot be overstated. In recent years, Wim Naudé has been a particular advocate of this and has characterised the connection between entrepreneurialism and human development to be neglected, both by theorists of entrepreneurialism writ large and of development theorists (Gries & Naudé, 2011).

Supporting entrepreneurialism is seen as one means of countering the rent-based economies too often present in poorer countries. Supporting individuals and firms to innovate within their markets can be part of shifting an economy away from state-supported rent-seeking practices towards diversification and the advancement of positive freedoms (Naudé, 2009). Others have also noted the challenges this agenda faces in many poor countries including underdeveloped intellectual property regimes, poor infrastructure, oppressive bureaucracy and short-sighted policy (Okolloh, 2012).

In light of this, collaborative spaces can play an important role, short circuiting some of these obstacles. Examples of hackerspaces in the Shenzhen area of China have shown that through collaborative spaces, local individuals and firms are able to leverage the knowledge and skills of fellow participants feeding directly back into the production processes at local manufacturing facilities (Lindtner & Li, 2012). Providing a space for people to come together and share and evaluate each other’s technical plans, in a manner akin to open source, reduces shared costs and spurs new developments either in the form of a new businesses or as hands on experience for individuals seeking work (Parker, 2013).

Small and new firms have specific challenges to overcome in relation to their size. Open spaces and incubator type spaces play an important role in reducing the barriers to entry for new players and encouraging entrepreneurship in even risk averse cultural contexts (Akçomak, 2011).
Global context and the knowledge economy

The global context for the emergence of collaborative spaces, both in developing economies as well as the advanced and post-industrial, is one of accelerated knowledge production facilitated by the use of advanced information technologies and most recently micro-scale manufacturing. The rise of the so called ‘knowledge economy’ is characterised by the fast paced movement of ideas and knowledge across borders and between communities allowing rapid diffusion of new concepts, increased efficiencies through the reduction of repetitive iteration and a reorientation of spatial configurations as it has become cheaper to move information than people (David & Foray, 2002; Hornidge, 2011).

Manuel Castells identifies the rise of communities of practice and a networked society within this trend (Castells, 2009). Being able to access these global flows of knowledge has profound implications for those who until recently were more or less entirely marginalised from globalised capitalism outside the realms of factory labour or resource extraction. It has become increasingly easy for an individual in Phnom Penh or Nairobi for example, to access the latest technical knowledge on a given ICT related problem. Similarly, should they have a product to sell, a mobile phone application for example, it has never been easier and as affordable for them to access global markets using the internet as a medium. It has been stated that software firms are ‘born global’ and by example, 80% of Indian software firms are externally-focussed (Majumdar, 2010).

The effects on individuals in advanced economies are varied, but two processes stand out in relevance to the subject at hand. First, there has been a rise in coworking and collaborative spaces in advanced economies, commensurate with the increasing portability of one’s labour in a knowledge-based economy, and the cognisance that despite this portability there are still great benefits to being collocated with others to share resources and participate in the weak ties, the informal exchanges, that are necessary for innovative industries (Chaey, 2011; David & Foray, 2002). Second, is the rise of labour migration from ‘global north to global south’, from richer countries to poorer countries, as part of individual livelihood strategies (Coles & Fechter, 2011). Prior to the emergence of a globalised knowledge economy, the opportunities for citizens from North America, Europe or Japan to live in a developing country were limited to those working within specific contexts; international development, teaching or as a regional representative for a corporation for example. The ability to either bring one’s work with them or to establish a new company still engaged with global information flows, has increased the number of people choosing to move to developing contexts whether for lifestyle concerns, business opportunities or even as part of a working holiday. This is most easily endeavoured by those most integrated with the global knowledge economy; designers, software developers, and others, who can, with the aid of the internet, work anywhere.
Critical assessment

Despite the above opportunities described, there remain a number of problems with this approach, chiefly, not all communities are benefiting equally from these processes and we may in fact be seeing a deepening of a so-called ‘digital divide’, or its socio-economic precursor, due to the underlying logics of global capitalism.

Even amongst proponents of entrepreneurialism as a mode of economic development, there is acknowledgment that not all communities are able to partake in this process, particularly the poorest communities who have limited attention to spare either to the detection of opportunities, or the time to exploit them due to the high uncertainty and risks associated with entrepreneurial activity (Gries & Naudé, 2011). For those at subsistence levels, the resources needed to realise entrepreneurial opportunities, be that time or money, are already largely invested in maintaining day to day life and cannot be easily refocused on risky or unproven life strategies (Gifford, 1998).

This is particularly the case for women, who remain significantly underrepresented in new start-ups due to a number of factors including the, ‘inhibiting of their agency, through … cultural norms, beliefs or outright discrimination which lowers women’s self-confidence’ (Minniti & Naudé, 2010). Within the world of information and communication technologies, where there have been mixed results in terms of women’s involvement and engagement, there still remains significant barriers to the articulation of women as producers, creators, and decision makers and not as mere passive consumers of technology-based solutions (Spence, 2010).

Access to globalised information flows and their attendant technologies has been characterised as a ‘digital divide’. And many development interventions have had the closing of this divide as their goal. But this divide has rightly been identified as being socio-economic in character rather than technological and that relative to income, the divide hardly exists (Pieterse, 2010). Despite this, and growing income disparities in many contexts, increasing numbers of people in developing countries are gaining access to these technologies and their respective entrepreneurial opportunities. In a place such as Cambodia, these may be those who, in context, are relatively better off than the average, but in a global context they are still poor and the economic opportunities they can both exploit and create for others are not limited to solely their benefit.

Pieterse also identifies a trend of convergence between advanced economies and those of the newly industrialised countries as wages begin to equalise and labour insecurity returns to advanced economies through the decline of the post-war welfare state and organised labour power (Ibid.). This has no doubt helped fuel the collaborative space movement in advanced economies as workers are shifted into unstable contract-based relationships with employers, or
are forced into self-employment for whatever reason. Indeed the very terminology deployed for many in such circumstances, the ‘creative class’, tends to obscure rather than illuminate the real hierarchies and inequalities in global capitalism (Aguiton & Cardon, 2007). The lifestyle and economic realities facing the head of a software company and that of an under-employed recent design graduate, let alone their counterparts in a developing country, are unlikely to be similar. However, the logics and language of creativity, innovation and collaboration are often applied in equal terms to such widely disparate groups and in doing so erases the vast material differences in their ability to engage with or exploit current global trends.
Methodology

As with any exciting and rapidly developing social phenomenon, the rise of innovation spaces has witnessed a plethora of truth claims concerning the mechanisms at play and benefits derived. As a researcher concerned with advancing this field then, it is paramount, as per James Halloran, to transcend and challenge seeming consensus and arrive at verifiable knowledge (Hansen, Cottle, Negrine, & Newbold, 1998). There exists a need to get beyond ‘the hype’ and examine the substance of the claims being made. Though needing to recognise the socially constructed nature of reality, and in doing so problematize the absolutist character of positivism, we can steer clear of the muddy waters of ‘mere perspectivalism’ and assert that this socially constructed reality is indeed a shared, if sometimes conflicting, set of experiences (Pickering, 2008).

In attempting to establish the ways in which the spaces are part of a shared community experienced by the participants and organisers, I employ two primary modes of inquiry. First is through an ethnographic inquiry of the spaces, their participants and the community they inhabit; answering the question of whether participants articulate themselves as part of a shared community, how they view the relationship between themselves and their respective spaces to this community and what they see as opportunities for greater sharing of knowledge, ideas and experience. Second, is a spatial mapping and analysis of this community as an emergent epistemic landscape of clustered knowledge hubs through which the relationships between the actors involved in this community, the spaces through which they engage with it and the events and processes through which this occurs, are illustrated and connections to the ethnographic inquiry are drawn.

Ethnographic inquiry

This paper is in large part an ethnographic inquiry, but of an unusual sort in that I am doubly investigating the ethnographic qualities of three collaborative spaces as organisations unto themselves, but also as components within an emergent community of knowledge exchange and innovation. As such, I will touch on elements of organisational ethnography, but will place greater emphasis on the research as an ethnography of a networked structure using qualitative interviews as the prime means for this inquiry.

Organisational ethnography

Though the research is focussed on the linkages between these spaces and the community they are embedded in, it is most focussed on the perceptions and experiences of their participants. These situated meanings are at the forefront of this research and the ways in which
participants make sense of the spaces in which they operate, and the meanings they derive from that participation are key to understanding the spaces as organisations (Yanow, 2012). The collective experience and their relation to each other is the subject of this study. Beyond the formal or bureaucratic structure of an organisation (of which this study is not overtly concerned) are the social structures, both internally and externally, that the organisation is constituted of or situated within respectively (Watson, 2012). This meaning is of fundamental concern to ethnographic enquiry and not supplementary to the analysis of behaviours (Rosen, 2000).

**NETWORK ETHNOGRAPHY**

The main inquiry is in the form of a network ethnography. Proposed by Howard as means of research into organisational forms built around new media, it tries to unite conceptual approaches from a variety of disciplines including epistemic communities (political science), communities of practice (sociology) and knowledge networks (management studies), and can be seen as akin to a meeting of ethnography and social network analysis (Howard, 2002). Noting that the widespread adoption of information technologies such as the internet has led to the rise of novel forms of social organisation, Howard suggests network ethnography as a means of striking, ‘a balance between macro-structure and technological or organizational determinism on the one hand, and micro-agency of the social construction of culture on the through a combination of an analysis of the networks of social interaction and ethnographic inquiry of the participants other’ (Ibid, p.569). This offers a number of benefits including: the meaning of ‘field sites’ becoming less territorial by starting at the point of a perceived community, leading to the selection of important nodes within the network; sampling for ethnographic research can be informed by the development of the network model potentially limiting biases; it allows for dynamic feedback in the research process both informing the network analysis via ethnographic interviews and informing subsequent interview selection based on network development; and finally, facilitating more accurate community change and the passage of ideas (Ibid.).

This methodological approach seems an appropriate tool in investigating the collaboration and innovation community that the three sites under study are part of. In process, I have developed a networked structure charting the interactions and actors within this community which has been informed by the ethnographic interviews with participants as well as fed back into and informed the selection of participants in a reflexive manner. Forlano has noted the applicability of this methodology in her study of wifi hotspots (Forlano, 2008) and as a likewise spatially and temporally flexible phenomena rooted in the information technology related community, I aim for the network ethnography to help unveil the boundary crossing and organising diversity found within the present study.
Marcus notes that multi-sited ethnographic studies, those focussing on more than one territory or cultural formation not bound by the fixed boundaries of a single site ‘mise-en-scene’, can test the limits of ethnographic inquiry (Marcus, 1995). In this sense, a multi-site inquiry is constructivist in character seeking to navigate the connections, interactions, affordances and reliances between locations and contexts, seeking to find or give meaning by following these movements.

**Auto-ethnographic and action research**

Ethnographic inquiry within new media experience and associated forms has been seen to incorporate features of the auto-ethnographic (Markham, 1998; Turkle, 1997). Networks can be difficult to access from their exterior and in many cases the researcher can become participant as subject within the narrative. This is to some degree the case for the current research, as a founding member and ongoing co-manager of the coLAB space I am intimately familiar with many of the day-to-day goings on of both coLAB, and also the wider community. Throughout the research process I have been able draw upon my own knowledge as applicable and this has been extremely helpful in gaining access to research participants in the various sites.

As a participant of the coLAB space, I have been situated within the boundaries of this research project and was motivated by a desire to inform the organisation’s practice through gaining a better understanding of our own practice, that of other community members and how it is that we engage with each other. As such this project could be seen to fall under the banner of action research. I hope this can serve as reflective process and allow myself, as participant, to achieve some objectivity and insight through reapproaching the organisation from different points of view (Noffke & Somekh, 2005). Though my position is anchored as a supporter of the innovation space concept, my approach is critical and my intent has been to improve practice and further innovate through a greater understanding of processes, experiences and relationships rather than to affirm existing ways-of-doing and understandings.

**Qualitative interviews**

The primary methodological tool used has been qualitative, one-to-one interviews with participants from all three organisations. With the intent of establishing the ‘real’ of the organisations with which they work, I have employed elements of three strategies mentioned by Barbour and Schostak: imposition, grounded and emergent (Barbour & Schostok, 2005). With an aim to comparing aspects of three organisations, an element of the impositional has been hard to avoid, and I have needed to actively shape the structure and content of the interviews, fielding specific questions that address my research objectives (Meyer, 2008). But I have also tried to create a setting that Schostak refers to as the ‘inter-view’, or the negative space between views in which people can express themselves and in doing so generate a critical
reflexive dialogue (Ibid). This dialogic process has helped in accessing and understanding the communicative relationships at the heart of my inquiry. Noffke and Somekh state that action research, “is always rooted in the values of the participants” and I believe that my position as participant-researcher has aided in creating a shared platform for the exchange of ideas and experiences (Noffke & Somekh, 2005, p. 91).

Ultimately, I selected qualitative, one-to-one interviews as my primary method of inquiry for their ability to access the finer details of individual practice and experience as well as being more suitable for issues that could prove contentious or controversial in a focus-group setting (Meyer, 2008). Though I hope that my research will prove helpful for participants in the Phnom Penh ‘collaboration community’, I was initially concerned that questions around funding sources, past failures and challenges or surrounding other contested issues could prove problematic in some scenarios; I don’t believe this to have been the case after having conducted the research, however, one cannot be sure of the outcomes had it been arranged differently.

Attribution of quotations taken from interviews have been anonymised and in the case of three quotations, potentially considered controversial, entirely removed.

**Spatial analysis**

In parallel with the networked and organisational ethnographic approach I have conducted a spatial analysis of the spaces themselves, the other organisations they interact with and the events they are jointly connected through.

**KNOWLEDGE ARCHITECTURE, CLUSTERS, HUBS**

Observing that knowledge generating industries continue to cluster despite the possibility of geographic dispersion due to advances in information and communication technologies, Evers, Gerke and Menkoff suggest a *knowledge architecture* for understanding and describing these clusters (Evers, Gerke, et al., 2011). Briefly, they posit the formation of knowledge clusters as composing of knowledge generating institutions, clustered due to the need for the continued sharing of tacit knowledge that does not transmit as easily in the virtual.

Knowledge production is a social process that requires interaction, and may take place to a certain extent, in cyberspace; however, innovation and discovery are also driven by emotions, fun and anger, excitement and frustration, which are projected at persons in direct interaction (Ibid.).

The clustering of knowledge producing organisations and the innovative practice they engage in, both demands communities of practice within which they can interact and offers competitive advantages through the sharing of knowledge and resources. To chart this, they suggest the creation ‘epistemic landscapes’ or knowledge maps locating the sites of knowledge
production and innovation in geographic space, demonstrating the physical proximity necessary to have the face-to-face interactions and ‘learning by doing’ that is considered necessary for the transmission of tacit knowledge (Evers et al., 2010; Evers, Nienkemper, & Schraven, 2011).

Within these clusters can be found knowledge hubs. These are important mediators to the process of knowledge exchange and play three major roles. First, they generate knowledge, they produce new ideas and information of relevance to the communities of practice they are part of. Second, they facilitate the transfer of knowledge to the places where it is put into practice. Lastly, they transmit knowledge to people through education and training.

Drawing on this analytical methodology, I have endeavoured to locate, within the Phnom Penh geography, an emergent epistemic landscape of collaborative work spaces and their linkages to the affiliated technology and innovation communities. All three of the spaces under investigation aim to fulfil some or all of the above stated roles of a knowledge hub and by situating these spaces as hubs within this landscape we can examine clustering behaviours both in geographic terms but also in terms of behavioural relationships and shared activities.

This has been implemented through a mapping exercise conducted in two layers. The first is the construction of a geographic representation of Phnom Penh, situating the three spaces and related organisations and actors within it. This has allowed for direct analysis of geographic clustering behaviours. Second is the relational mapping of the direct and indirect linkages between the three spaces and other actors in the community to determine points of mutual involvement and collaboration, and to document the networked structures therein.
Conducting the research

Interviews were conducted with participants and organisers of the three spaces with the following distribution: coLAB – five respondents, SmallWorld – six respondents, Development Innovations – one respondent.

Interview selection was done through a combination of convenience sampling as well as being reflexively informed as part of the concurrent spatial analysis and mapping process. Those chosen were, whenever possible, selected as part of their relevance within, and representativeness of, the flow of people and processes within the community. Contact was made for interviews via several channels including face-to-face interaction, email, Skype and Facebook. In addition to those respondents sought out independently by myself, assistance in the form of referrals was provided by the primary organiser of the SmallWorld space who acted as a gatekeeper. The location for most of the interviews was at SmallWorld or the coLAB space. Several interviews took place in unaffiliated cafés. Interview times varied from twenty minutes to one hour but were close to thirty minutes on average. Despite earlier preparations for inter-language interviews, the use of a translator was not required and all interviews were conducted in English. Interviews, with the consent of interviewees, were recorded digitally for later transcription and analysis. Interviews took place in two periods, first in February followed by a second tranche in April 2014. Earlier interview data was collected from two respondents in December 2013 as part of the pretesting phase of this project and one interview took place in May 2014 due to delays caused by scheduling conflicts.

What follows is a physical description and brief history of the spaces and an introduction of the respective participants.

coLAB

THE SPACE

colAB was opened at the beginning of 2011 in the Toul Tom Poung neighbourhood in the south of Phnom Penh. It was the project primarily of three long-term expatriate residents each involved in the local technology scene. It was envisaged first as ‘hackerspace PP’, the city’s first hackerspace, and was to serve as a technology ‘community
centre’ of sorts, offering a variety of training workshops as well as providing a place for members, Cambodian, expatriate and visiting alike, to drop-in, socialise and network. Though not as overtly political as many other hackerspaces, it was firmly positioned as a proponent of the free and open source software movements and was resident to the Phnom Penh Linux Users Group for some time. During the course of 2012 the brand coLAB was conceived and launched to more specifically promote the coworking facilities and expand the appeal of the space beyond technology communities and those familiar with the hackerspace concept.

It is located nearby the area’s popular ‘Russian’ Market and the area is home to a fairly high number of expatriates. The first location was in a typical Cambodian-style shop-house, arranged over three floors, with a large number of small rooms within its narrow and deep footprint. The rooms with the exception of those near the very front and rear received no direct light and the rooms included, after some initial settling in, a common area, a meeting room, a coworking area, a small kitchen, and a rooftop terrace in addition to some disused spaces. Its front entrance and small parking area were hidden behind a large metal gate, the only external marker being an oversized polystyrene “91” indicating its address.

This first location was replaced by the present location, 150 meters down the road and closer to the market. Now located on a main road, the new location occupies a former coffee shop on the first floor above a convenience store. It is essentially open plan, almost double the width of the previous location and with windows running down one full length of the space. The rooms is separated into ‘zones’ with a small terrace, bar, sofas and library occupying one end of the space; coworking desk space occupies most of the remainder with the exception of a hardware tool library and work area at the very rear. It is less than half the total floor space of the previous location but more fully utilised. Though many members would desire a larger space, it was selected based on its price, which allowed for a seamless move (financially) from old to new premise, its more convenient location and appealing physical environment.

THE PEOPLE

First interviewed was one of the founding members of the space, DJ. He is a long-term expatriate resident of Phnom Penh and until recently served as the Chief Technology Officer for one of the city’s largest software development firms. He is also a tech entrepreneur and is involved in a number web-based start-ups. As one of the original three people involved in the conception of the space he has been heavily involved throughout the space’s history, at times offering training courses, holding other events including the development and launch of Startup

1 This being done to avoid the city’s ‘sign police’ who charge an annual fee for external signage as well to avoid other local authorities looking to collect minor bribes.
Weekend Cambodia (the country’s first iteration of a global workshop series) and most recently as a full-time co-worker as part of another member’s resident start-up.

CB, also a founding member, was interviewed next. He is also a long-term expatriate and one of the city’s more visible members of the software, technology and start-up community. He is involved with a number of technology start-ups as well as being involved with InStedd, a non-profit organisation involved in ICT4D and innovation. This latter connection indirectly aided the space in its initial year via seed capital. Though more involved in the space at its inception, his involvement is mostly social as his professional engagements elsewhere occupy most of his time.

MS, is a recent Cambodian graduate who is presently employed by one of the space’s resident start-ups. He was first introduced to coLAB by a former member and was involved in a number of training events over the past two years. As a student he did not become a regular member and until recently was only occasionally involved. However for the past six months he has been a full-time co-worker employed within the space and increasingly involved socially.

IC, is a former member and expatriate resident of Phnom Penh. Her employer, a small social enterprise promoting innovative water sanitation solutions to rural communities along Cambodia’s waterways, was resident in the space for six months in 2013 before relocating to the owner’s residence. She holds a PhD and prior to working with her present employer her experience was working in a university context.

JB, is a long-term expatriate resident of Phnom Penh and member of coLAB. He is involved in the software development community and before moving to Cambodia was employed within that sector in the UK. For most of coLAB’s life he has been involved in a regular though non-professional context. Though making use of the space on a near daily basis, he did so working on his own various projects of mostly personal interest as well as helping to set up facilities in the space such as computer networking and storage. Most recently he has become a full-time employee of one of the space’s resident start-ups.

SmallWorld

THE SPACE

SmallWorld was conceived of in response to a problem shared by its founding members: where to hold meetings for the various entrepreneurial and social activities they were involved in. After years spent paying for coffees at cafés or paying to rent meeting spaces the group of four young Cambodians decided on Toul Kork, a northern suburb of Phnom Penh, as the site for their space due to a number of factors including its cool tree-lined streets, proximity to students attending the nearby universities and access to the neighbourhood’s wealthy (and potentially
investing) residents. After months of planning, the four, including an entrepreneur, an ex-english teacher, a former monk and a business person, opened SmallWorld with a budget at first guaranteeing only three months of operation.

Open since mid-2011, the space itself is housed in a large detached house with a paved garden space outside and contained within the high cement walls typical of ‘villa’ properties in Phnom Penh. The main space that visitors and coworkers use is the open-air main room of the building and the neighbouring courtyard which has been fitted with café tables and sun shades. There are also a number of ‘private’ offices rented by resident start-ups operating in the space as well as several bedrooms located on the first floor used by short term guests. Next to the outdoor seating area SmallWorld initially offered food service however after some time this was deemed not financially viable and was stopped. That space has since been filled by an additional ‘private’ space currently housing one of the start-ups.

The neighbourhood they are located in is populated predominantly by upper-class families living in large detached and gated ‘villas’ or, in recent years, newly built apartment buildings. The area, or nearby, is host to a wide range of universities and other post-secondary educational facilities including the Royal University of Phnom Penh and the Institute of Technology of Cambodia.

THE PEOPLE

Core to the founding and operations of SmallWorld and its first interviewee is RT. A self-confessed ‘serial entrepreneur’ he is heavily active in Phnom Penh and Cambodia promoting the activities of both his own projects like SmallWorld but also greater youth involvement and entrepreneurialism in the general. He has been involved with a number of non-profit ventures as well and though still supporting that model, has shifted in recent years to a focus on entrepreneurialism as a means to generate sustainable employment for individuals and development for his community.

Next interviewed was SS, founder and primary owner of a web development start-up based in the space. Khmer born, SS travelled to Europe on a scholarship to pursue university studies and returned to Cambodia two years ago. After some time working in the business and social-enterprise sectors he took the knowledge gained and started his own company with the help of
the SmallWorld facilities and team and his company is now a major contributor to the financial sustainability of the space. He is actively involved in the Phnom Penh technology and entrepreneurship communities.

DS is a relatively recent addition to the SmallWorld community and now bases his media company from the space. Previously working at a TV station he had interviewed some founding members about the space as part of his work and when he decided to start his own venture he felt that it would be a good match for his business.

TT doesn’t work at the space on a regular basis though she used to be more involved as a member of one of the space’s earliest groups. Whereas she formerly attended the space regularly to work and have meetings, she now works full-time elsewhere and predominantly makes use of the space for social purposes, reconnecting with friends, coming to events or just stopping by to use the internet to watch videos.

KT is co-founder of one of the space’s recent start-ups. Having Cambodian family made Phnom Penh an attractive place for this California originating technologist to launch his start-up with his brother. Though having been in Phnom Penh for less than a year they have established themselves as the city’s ‘go-to’ experts on 3D printing and are actively engaging with other technology and design related groups both at SmallWorld and elsewhere. Initially wanting to create a coworking space of their own, they were pleasantly surprised to find that SmallWorld already existed and was able to welcome them to their space.

LB is self-employed expatriate business owner who came to Phnom Penh with the intention of becoming involved in the social enterprise sector. After first making contact with SmallWorld she moved to Phnom Penh and became a resident in one of the space’s upstairs bedrooms. She was active for some time mentoring other members before refocussing on her own company after having attended a Startup Weekend event. Her business eventually outgrew the available space at SmallWorld and as of writing she is no longer involved.

Development Innovations

The Space

Development Innovations has been open for approximately six months and is part of a three-year project funded by USAID and implemented by US-based management firm DAI. Its stated goal is to be self-funding and sustainable after that point. It is housed in a newly built seven floor office building located on a major arterial road in the south of Phnom Penh. The facility itself is spread over three floors of the building and encompasses a meeting space for events, the lab or coworking space and an administrative level. The building itself is typical of new build apartments or offices in Phnom Penh with an abundance of fluorescent lighting and
extensive tiled floors. Access is via an elevator or stairs entered via a lobby area or through the underground parking area.

The coworking facilities are free of charge following an obligatory registration process including a demonstration of your intent of use. It includes desk space and an increasing variety of tools for use including computers and other hardware. At the time of writing there has been little promotion of the lab facilities and their opening hours are those of a normal office being closed in the evening and at weekends. This is expected to change in the near future as programmes are developed.

THE PEOPLE

SN is part of the senior management team employed by DAI to implement the Development Innovations project. He has a background working in the technology and start-up communities in New Zealand and has previously been involved with state-funded start-up accelerator programmes. He is presently employed as Deputy Director but will be changing focus to a role focussing on innovation, both supporting resident start-up projects as well as seeking new engagements with community partners.

Due to the relatively recent launch of Development Innovations and their still limited operations as a collaborative space I was unable to source an interview with someone who could be considered a ‘participant’ of the space.
Analysis

Spatial analysis

PHNOM PENH’S COWORKING AND INNOVATION COMMUNITY AS KNOWLEDGE CLUSTER

To map the emergent epistemic landscape of Phnom Penh, I first established SmallWorld, coLAB and Development Innovations as hubs within a knowledge architecture. In discussions with interviewees, a number of additional sites and organisations were identified as belonging to a perceived community of collaboration, entrepreneurship and innovation in Phnom Penh, and these have been placed as nodes within the architecture. In addition to these, I have included other notable community members explicitly associated to either the three collaborative spaces or shared events as demonstrated via sponsorship or other public demonstration. For example, though not identified as a specific member of the community by respondents, I have included Ezecom, an internet service provider, as a node due to their public sponsorship of both organisations and events identified as part of this study. Also included, as part of the spatial analysis are a number of universities, those with notable technology related departments as determined through conversations with respondents, due to both their concentration of students, identified by many respondents as key demographic, as well as their being a frequent site of events. A full list including summary descriptions of all nodes within the landscape mapped is included in Annex 1.

GEOGRAPHIC RELATIONSHIPS

After collating a list of all nodes for inclusion in the spatial analysis, nodes were distributed into one of four categories: collaboration space, development partners and funders, private sector partners and funders, and universities. Each of these was been first distributed to a separate geographic map of Phnom Penh as seen in Figure 1. Some nodal points fell outside the topography of the base map however their positions remain geographically accurate.
Figure 1: Spatial mapping of Phnom Penh knowledge hubs

Collaboration spaces
1 - SmallWorld
2 - coLAB
3 - Development innovations

Development partners and funders
1 - USAID
2 - Embassy of Sweden
3 - KOTRA
4 - InStedi
5 - Open Institute

Private sector partners and funders
1 - Ezech
2 - Yodik
3 - Golden Gekko
4 - Sabay
5 - Cellicard
6 - Aruna Technology
7 - Digital Divide Data
8 - Web Essentials

Universities with technology programmes
1 - Limkokwing University of Creative Technology
2 - Institute of Technology of Cambodia
3 - Pañhasastra University of Cambodia
4 - Royal University of Phnom Penh
5 - Norton University
6 - Build Bright University
To determine the degree of clustering behaviour evident via a spatial analysis I then collapsed the four layers into one as seen in Figure 2. Nodal clusters were immediately evident and I have shaded these for greater clarity.

Figure 2: Clustering of Phnom Penh knowledge hubs

Five clusters are evident within the landscape generated. They are described below:

**Cluster A** – This cluster is located in the north-west of the city and includes the SmallWorld space as well as a significant number of universities and one private sector institution. Several of these universities have played host to events, including Barcamp, and include the countries leading technical university, the Institute of Technology of Cambodia, described by one respondent as “Cambodia’s MIT”. This area is site to a large number of new property developments in the city.
Cluster B – This is a smaller cluster located in the north-east of the map in what constitutes one of the older quarters of the city, it includes a university, a major development partner and one of the city’s leading software development companies. Although two additional sites appear nearby geographically, they are located across a major river requiring a significant diversion to access so have not been included within this cluster.

Cluster C – This cluster is a tight grouping of a university, a major development partner and two private sector institutions located towards the geographic centre of the map. Drawn differently this grouping could have been part of cluster D however the exceptionally tight formation of three of these nodes, within 100 meters of each other, suggested they be considered as distinct. This area is site to a number of large office tower developments in recent years and is one of Phnom Penh’s major commercial arteries.

Cluster D – This grouping encompassing three development partners, two universities and one private sector institution is located in the eastern portion of the city. It correlates loosely to both a neighbourhood known for its preponderance of NGO and development agencies and a major office building.

Cluster E – The final cluster, appearing in the south of the city includes coLAB and Development Innovations as well as a large, perhaps the largest, software related business in the city. This is predominately a residential area preferred by many residents for its lower, though rising, property prices while retaining a relative proximity to city amenities.

Knowledge hubs can be described as, “meeting points of communities of knowledge and interest” (Evers, Gerke, et al., 2011), as crossroads for the exchange of tacit knowledge and the maintenance of communities of practice. In a physical sense, they must be situated in such a way as to enable this process via the face-to-face interactions of people. Given the three spaces have both explicit and implicit intent to serve as these hubs it is interesting to see, in purely geographic terms, that only one of the three is located in close proximity to a significant number of other nodes in the network. SmallWorld’s location in the north-west quadrant of the city positions it within close reach of the many thousands of students attending university in the area and is also close to the headquarters of one of the leading internet service providers, itself considered a desirable employer for many young people completing studies in related fields.

Clustering behaviour observed in other areas of the city, especially in the case of cluster D, also appear beneficial and anecdotally informants have suggested there is collaboration going on between some of these nodes. At least one of these sites, InStedd also plays a hub-like role within the ecosystem of innovation in Phnom Penh and is an important lead in terms of the application of technology to health related development interventions.
Given these clusters, it is surprising then to find coLAB and Development Innovations situated relatively far away in cluster E. If serving as a hub and a platform for exchange is a goal then this choice of location would seem odd. In the case of coLAB, the decision to locate in this area was motivated primarily by financial constraints and as one respondent put it, ‘getting the most bang for the buck’. In origin its role as hub was also perhaps less articulated then it has come to be and proximity to local amenities rather than a target audience took primacy in selecting a location. Perhaps consequently the primary demographic using the space are expatriate self-employed people who live relatively close by. Though events held at the space, particularly training events but also social events, tend to draw larger groups of people and of a noticeably higher concentration of young Cambodians, the space has never succeeded in capturing a more casual or student-based audience and this could in part be due to its relative distance from other nodes in network.

By contrast, Development Innovations is operating under a comparatively very large budget, in the millions of dollars, and its choice was not constrained in the same way financially. Although it does share the cluster with an important private sector partner, Digital Divide Data, it is quite far from universities of relevance, other development related partners and most of the private sector nodes within the landscape. Although too early in the space’s operation to draw any conclusions, it will be interesting to how and by who the space is utilised as it develops. The lack of a nearby pool of potential users, students, technologists or development professionals, may impact its ability to fulfil its mandate as a hub. According to the organiser of the space interviewed there are internal discussions about building smaller ‘satellite’ labs at two university campuses to better access those student populations. With that being said, it would appear that events being held so far are fairly well attended and are not suffering from the specific location of the space.

**Relationships between groups, events, hubs**

In addition to mapping the spatial relationship between the collaboration spaces and other identified community members, I have mapped the flows and points of contact between five different nodal types within the emergent knowledge architecture: the collaboration spaces, private sector partners and development partners seen previously joined by events and less formalised groups of people identified as being part of a perceived community during interviews. Relationships have been classified as either formalised, direct sponsorship or explicit collaboration, or as informal or unclear in the case of relationships either not involving clear material support or where the nature of the relationship remained unclear at the conclusion of the research phase. This network map can be seen in Figure 3. A full list including summary descriptions of all nodes within the architecture mapped is included in Annex 1.
Figure 3: Phnom Penh knowledge architecture

- Collaboration spaces
- Private sector partners and funders
- Development partners and funders
- Groups
- Events

Golden Gekko
Digital Divide Data
Yoolk
Aruna Technology
Web Essentials
Callcard
Sabay
Ezecon
SmallWorld
coLAB
Development Innovations
Startup Weekend
Tech Camp
Let’s Do It
Good For Nothing Challenge
IGI Debate Competition
National Business Plan Competition
Klimer Enterprises
Klimer Young Entrepreneurs
Share Vision Team
Klimer Talks
FOSS Asia
Nerd Night

USAID
InSTEDD
Open Institute
Embassy of Sweden
KOTRA
At first glance this map of the networked links between the nodes of the knowledge architecture appears to support the notion of a broader community of organisations and institutions collaborating on events and supporting similar projects. Indeed with the exception of three events and one development partner every node is connected to the network in some way.

Three events seem to enjoy the greatest degree of involvement from community members: Startup Weekend, an annual event where competitors pitch a business idea and with a team develop and present a ‘final’ product over the course of three days; Barcamp, the local iteration of an international ‘un-conference’ where individuals present on a wide range of ideas; and FOSS Asia, a conference dedicated to promoting open source software regionally.

Startup Weekend was initially brought to Phnom Penh (it is a global series of events) by a member of coLAB and the first event (have occurred three times at the time of writing) was held in the coLAB space. It has since gained considerable support from private sector sponsors and partners and in events since, has taken place in the offices of Yoolk, one of the larger software development companies in Phnom Penh. Several people involved with that company have been involved with the coLAB space including the Startup Weekend organiser, DJ, who has been interviewed for this project. More recently it has gained financial support from USAID and the next event is being partially organised by Development Innovations. Attendance at the events has been steadily growing and is popular with young people looking to either launch a business idea related to information technologies or learn more about the process of starting up a company. Anecdotally, many individuals involved at SmallWorld and coLAB have taken part in this series and some of the business ideas generated have gone on to become resident start-ups at one of the spaces as is the case with LB, a respondent interviewed.

Barcamp, a conference consisting of attendees pitching their ideas to present on the first day, and being decided upon via crowd selection by participants, has been going on for several years and is a local iteration of a global network of events started in the California technology scene in 2005. It has proven tremendously popular in Cambodia and has spread beyond Phnom Penh to take place in several other cities. Attendance typically tops 2000 people and the range of topics can cover everything from software technologies to art workshops. Participation levels from those people within the technology and entrepreneurial communities in Phnom Penh is high and it was the event identified most frequently by respondents as being part of a perceived community. Though none of the collaboration spaces is involved in a material supporting manner, the individual participants of the spaces have often been either participants or presenters. It has enjoyed significant support from the private sector and development sectors. Particularly from the Open Institute and more recently from USAID whose support has aided the expansion of the event series to a variety of cities outside Phnom Penh. The most
recent event in Phnom Penh was hosted at the Institute of Technology, identified as a node in the spatial analysis but not included in the above architecture map.

FOSS Asia, the most recently started of these events, is a conference organised to promote the latest in open source technologies to software developers, students, and start-ups as well as to meet contributors and potential partners. It received a wide diversity of support from both development and private sector partners, though in the latter case less so than the previously mentioned events. Development Innovations was a direct sponsor of this event. coLAB was to play a role hosting a satellite event though this didn’t occur due to a scheduling change. An unexpected connection to the Embassy of Sweden (it’s only linkage within the architecture) was also found. This event took place at Norton University, identified as a node in the spatial analysis but not included in the above architecture map, as well as at the Open Institute, a development sector partner.

Of interest is SmallWorld’s comparative lack of engagement, direct or indirect, with events engaged with by the other two collaboration spaces. Though there is anecdotal evidence of engagement in terms of individuals affiliated with the space, it has concentrated its efforts on groups and events that have, predominantly, not had the support of other development or private sector partners. Khmer Enterprises and Khmer Young Entrepreneurs, both groups set up to support and encourage the growth of an entrepreneur ‘ecosystem’ are both affiliated to SmallWorld and when including Khmer Talks, a national language idea sharing event, form a cluster of their own arguably independent of the broader architecture. This lack of engagement may be due to a combination of factors including language barriers and a commitment to self-funding that I will explore within the analysis of the ethnographic data.

Lastly, a number of nodes identified in discussions with research participants do not have any known connections to other nodes: KOTRA, the South Korean Government’s trade and investment promotional organisation which operates a business incubation programme in Phnom Penh; Good For Nothing Challenge, a New Zealand originating event bringing volunteering international technologists, social enterprise experts and development people together to solve a ‘challenge’ over the course of the event; and the CJI Debate Competition and National Business Plan Competition, two events aimed at developing young Cambodians abilities in critical debate and business planning respectively. Though there may be some indirect exchanges and some cross involvement of some individuals within some of these events, none have demonstrated formalised or material relationships with other points in the network.
Ethnographic analysis

PURPOSE OF THE SPACE

Almost all respondents seem to share similar ideas concerning the purpose of the collaboration spaces they are involved with. The notion of creating a space, centre or platform for the exchange of ideas and knowledge and as a way of meeting people to work or collaborate was identified by respondents in all sites.

“A space where you get a whole load of people, the creative side of tech, a start-up or just to create cool things. A place for people to gather, share ideas and learn from each other.” (JB, coLAB)

“To try and get a community of innovators together, defined broadly, people who want to see social change happen and are prepared to make it happen. To give them to them the tools to make it happen. So one of the parts of that is to have focal point, a physical gathering point of some kind.” (SN, Development Innovations)

“A help centre for young entrepreneurs, and start-ups, any start-up. It doesn’t necessary mean they have to be in this centre. They can be anywhere and they can just come and connect with the start-ups here or to get some advice, or get some connections.” (RT, SmallWorld)

Some differences between the sites were noted. Respondents affiliated to coLAB were more likely to talk about the focussing potential of the space in reference to a more general audience of people wanting to work together or interested in technology in a broader sense. Though the discourse of ‘start-ups’ was very much a part of the perceived purpose of this space it was not nearly as concentrated as with respondents from SmallWorld. Interviewees there were more likely to be specific about the target audience for the space as being entrepreneurs and start-up businesses. While at Development Innovations there is reference to innovations taking place in regards to social change. The specific histories of each space offer an explanation with SmallWorld being reoriented towards a business incubator model and Development Innovations as a product of the USAID goal of increasing social innovation, while coLAB has been more ad hoc in organisation and intent.

SmallWorld initially focussed on solving the founding members’ need for a space and offered coworking membership in much the same way as coLAB. But this was not found to be financially viable for the space, which after a year and a half was prompted to pivot and reorient itself more strongly to the growing grassroots entrepreneurship community in which the active members were already quite active.

“I thought that lots of people would come. But those people want a more comfortable place then we could offer. And the coworking model is mostly about meeting people but we didn’t
have so many people. Then we had people, but they were mostly young and weren’t sure what to be doing, they were just playing around. Now, they know what to do and are inspired themselves. So the coworking space didn’t work out and it took two years of keeping it going to get where we are now.” (RT, SmallWorld)

By contrast the coLAB space, initially started with the intent of offering a casual focal point for people involved in technology looking to network or work on personal projects, found itself pivoting towards coworking as a model that offered financial viability.

“I think we envisaged it as a drop in space, people hanging out just doing things, we envisaged a lot of locals and over time it’s sort of transferred into more a co-working space. I think that’s why it’s survived this long, because it’s been quite flexible and agile.” (CB, coLAB)

This difference is in large part due to the different demographics utilising the two spaces. Whereas most of the people targeted by SmallWorld have been students from the nearby universities or other young Cambodians with start-up ambitions, coLAB has been from the start used mostly by expatriates living in Phnom Penh, either self-employed in the case of the coworkers or employed at international salaries elsewhere in the case of the more casual user. This large gap in available funds from the two target audiences has had an impact on participation. coLAB has struggled to recruit long term Cambodian participation in the space.

“It all boils down to cost at the end of the day, everyone wants a nice space but is everyone willing to pay for it?” (CB, coLAB)

“Part of the reason it is mostly freelancers, not Khmer students, price, location, ambience. Intimidation factor.” (JB, coLAB)

This economic consideration may prove not to be a barrier at Development Innovations however as, being a funded project, they do not have to charge fees for the use of their facilities. Likewise, with the high level of funding they have, they can afford to offer resources, in terms of space, technical tools and services, of a high standard.

“To have a third place to go to work together, ‘third place’, not work, not home, somewhere else that is mutual and safe for participants. To lower the bar for people who want to get into using technology for social innovation, to make it easier, get rid of the excuses, where to meet, need a computer or internet. And to make it an enjoyable thing to do as well.” (SN, Development Innovations)

But resources and physical space is acknowledged by many as being only a component of what make these three spaces of value to those who use them. In search of innovation and opportunities to collaborate, people need something else that is less material.

“Space helps, running into each other, but you don’t necessarily get that just because of the space. If the goal is collaboration or doing new and useful things, space is a part of it but maybe
not causal, just because you have a space doesn’t mean it will happen and not having it doesn’t mean it won’t.” (SN, Development Innovations)

“People attract people. If more people are meeting like that, than sharing those success stories can help make a spark for someone else. It might take some time, to grow one by one.” (RT, SmallWorld)

“People collaborate, organisations don’t collaborate.” (JB, coLAB)

“Coworking for the purpose of coworking alone is not a good idea. You need something else.” (RT, SmallWorld)

Tacit knowledge has been deemed to be vital to the development of knowledge-based industries and grassroots entrepreneurialism (David & Foray, 2002; Evers et al., 2010). Respondents have identified this, and its often informal exchange, as one of the key factors for participation and engagement within the spaces. Bringing together a diversity of people and skill sets is necessary both as a source of tacit knowledge and experience but also in the generation of creative and innovative outcomes (Paulus & Nijstad, 2003).

“Innovation comes from the fringes, not necessarily from the mainstream. Something novel that solves a problem in quite a unique way. In order for that to happen, to get the diversity to come up with that collaboration is key, to come up with new ideas that a group of more homogenous people may not have come up with it in the same way.” (SN, Development Innovations)

“Informal is more effective. Right now there are 3 freelancers here, one in Android, one PHP, one on Ruby on Rails... These guys came here three months ago, and I introduced them and maybe the next week they meet and think maybe we can do something together. Then they are sitting next to each other and now they exchange knowledge on how to do things.” (RT, SmallWorld)

“I find that most the knowledge comes from here and feeds into my start-up, no offence to Cambodians but a lot of the innovation in the work I do still comes from the west so I’m happy to try and feed that back into the company.” (DJ, coLAB)

“Connections to people, networks. I came back and in less than two years I have made a network, my home town is Siem Reap not Phnom Penh, building a network could take years and years but coming here there is a network to connect to.” (SS, SmallWorld)

**A COMMUNITY?**

The previous quote brings us to the broader question of community and networks and whether the spaces themselves are embedded in a broader community of collaboration, entrepreneurialism and innovation. The mapping of Phnom Penh’s epistemic landscape has demonstrated the connections in play between the spaces, a variety of partners and mutual
support and collaboration either indirectly or directly for a range of events. Below I explore respondents’ views of this community and the role they feel the spaces inhabit within it.

Almost all respondents agreed that there is a broader community that their space is situated within. Most of the nodal points illustrated as part of the knowledge architecture were drawn in response to this question. The most commonly identified members of this community included the other spaces in this study and the Barcamp, Startup Weekend and FOSS Asia events. It was also common for respondents to speak in more general terms referring to students and entrepreneurs as part of a community network and this was most the case with respondents from the SmallWorld space who also tended towards identifying predominantly SmallWorld affiliated groups and events and were less likely to identify development and private sector partners. It would appear that though participants in SmallWorld agree with the idea of a broader community, they are less sure about who exists within it. This may be related to the lack of linkages between SmallWorld and other organisations as represented by the architecture map. By contrast, SmallWorld was very frequently identified by respondents elsewhere as being a member of a perceived community, but though they tended toward being able to identify start-ups originating in SmallWorld, they were less likely to identify the events promoted or hosted by SmallWorld. The following comparison is illustrative of this contrast; the first respondent based at SmallWorld, the second at coLAB.

“Startup community, locals and expats, tech scene, it’s easy to get into and can meet lots of people. Startups, entrepreneurs, some NGOs.” (KT, SmallWorld)

“Yeah... my experience is that Phnom Penh is small city, it's growing rapidly of course, but the tech and innovation community is quite small. When you go to these events, Startup Weekend, Tech Camp, Shared Vision, Barcamp, it's the same core people.” (DJ, coLAB)

The sentiment that there is an accessible community in this regard was echoed by others utilising coLAB, though more so by those involved in the organisation of the space than by casual users. This may in part be due to their experiences working in other arenas within the city or as part of their organisation or participation in broader community events.

“Nearly anyone in tech... an incestuous scene.” (JB, coLAB)

“Definitely, wider community that everyone knows each other.” (CB, coLAB)

The interaction between individuals commonly involved in event organisation and promotion, and those involved in both organisations such as InStedd and private partners such as Yoolk was noted and plays an integral part of forging the linkages shown in the architecture earlier. As one respondent put it, “Cambodia is very much about thought leaders.” Unfortunately, due to the architecture’s reliance on mapping organisations and discrete events,
the effects of individual actors has not been captured. Likewise, some of these actors are quite mobile and have been directly involved with or employed by multiple nodes within the network.

In discussion, the respondent from Development Innovations indirectly offered an explanation to this perception of ‘everyone knowing everyone’, noting that though there is a nascent grassroots entrepreneurial community in the city, the would-be affiliate technology community is still largely comprised of expatriates or a smaller, foreign educated, segment of Cambodians.

“Tech less so, I think that’s still foreigner driven or people who are foreign educated anyway, some of the universities are starting producing tech people but still a long way off to producing high quality, competitive technologist.” (SN, Development Innovations)

Indeed, of the eight private sector partners identified as part of this research, five are owned by expatriates. Though this mapping is of course incomplete and there exist other Cambodian-run private technology partners, it was these that were identified as being part of a perceived community and it is with these companies that respondents from coLAB are perhaps more likely to engage. It should also be noted that not everyone at coLAB was as confident about a broader community. One respondent, an employee of a social enterprise working in the water and sanitation sector, stated of the existence of a broader community:

“I got the feeling there was but didn’t seem very prominent. In the background.” (IC, coLAB)

Again this may be indicative that awareness of a broader community is impacted by activities outside the space to a greater degree than those inside.

Speaking in the general sense however, most respondents felt there is a community of people in Phnom Penh to be accessed and to be drawn upon both for participation in the spaces and as participants in shared community events.

“It seems like there is a strong and youthful community of Cambodians wanting to get involved in entrepreneurship. A strong culture here of wanting to do something yourself.” (SN, Development Innovations)

“The people that were there when I first got involved, now I see them around in some form or manner, they’re out and around.” (LB, SmallWorld)

“Mostly students, and they come here for meeting, workshop and events. Mostly technology related.” (TT, SmallWorld)

“The community is picking up people all the time, and as there are more events more people will attend and be inspired and join that community. We’re at the point now here I think the main thing is to grow the community.” (DJ, coLAB)
CONSCIOUS ENGAGEMENT

To what degree then are the collaborative spaces engaging with this community and with each other, are participants aware of the connections being formed and do they know how to take advantage of them?

Development Innovations appears to be most conscious and proactive in this regard. They have entered the community with an objective of engaging other organisations and businesses as much as possible in pursuing their goal of advancing social innovation.

“We’ve engaged everyone from the beginning. We had workshops at the beginning. We’re only here for 3 years so we’re conscious we don’t want to break things.” (SN, Development Innovations)

Here the respondent is referring to a number of workshops organised in the early days of the project, where a wide range of potential private sector and development sector partners were brought together to be introduced to the Development Innovations project and to discuss possibilities of future collaboration and mutual support. Since then the space has played host to a wide range of events including workshops on start-ups, open source software and educational technology. These have by all accounts been well attended thus far but a lingering suspicion remains towards the Development Innovations project by other community members.

“I feel... intimidating. It’s good, they are trying to do something good. But I hope they use money wisely but they should learn from what the existing things do. But I think they have different targets.”

“Jury’s out on it but yeah, it’s looking a little... a bit clueless”

“If you had that whole thing started, incubators...like Development Innovations could have done that with the funding they’ve got, but they’ll no doubt be building tools to map toilets in villages or something like that...”

This may in part be due to the opaque process by which the contract for the project was awarded and the lack of concrete representation of local partners within the project. It is also surely a product of the space only having recently become active. As the respondent from Development Innovations notes they are conscious that they are not yet fully engaged in the community and are still in the process of learning.

“I’m not sure we’re a big part of it yet.” (SN, Development Innovations)

“We’ve yet to figure out what some of those things could look like. We’re looking to see what places like you guys have done, what kinds of workshops, training, depends on the audience.” (SN, Development Innovations)
What is clear however is that they are conscious of the broader community and have the intention of trying to engage with it more, this is the central focus of the project, to support and develop a community of innovators, and they are in the process of determining ways of doing this.

Participants at SmallWorld seemed less sure about broader community engagement. Some respondents identified events such as Barcamp as sites of this engagement, while others focussed solely on events and projects hosted at or by SmallWorld itself. One respondent was clear about the need to get out of the SmallWorld space and interact more.

“Need people to go out and join events, not just come to, SmallWorld, mostly we just stay in our office but it would be great to go out and promote SmallWorld and encourage people to visit.” (DS, SmallWorld)

SmallWorld has been deliberately located in an area of the city with large nearby student communities at the universities and the main organiser has stated, “The real purpose, the ultimate purpose, is to create an entrepreneurship community in Cambodia, to get people to do something, to create something.” So it would seem that the idea of a broader community is established but perhaps not being fully implemented. One respondent relayed the story of attempting to run a course at the space and being disappointed with the level of attendance. Having assumed that using SmallWorld’s network connections would result in wide promotion of the event and subsequent participation they found the results surprising.

“Tried to do a course with SmallWorld. It didn’t work out so well, there wasn’t a lot of sign-ups. We thought we could reach more people and it didn’t really happen the way we had discussed.” (KT, SmallWorld)

Curiously, courses and workshops are one of the main benefits of the spaces as articulated by organisers and one of the main draws as identified by participants so the lack of participation may be more related to communicative processes in play and the degree of engagement with networks either due to intent or other factors, location seemingly being one.

“SmallWorld, seems to be doing something a bit unique, a bit outside... I don’t know whether it’s geographical, because it’s in Toul Kork, I know living down here in Toul Tom Pong I rarely have a reason to go up there and it’s the same for those guys up there. There are loads of universities up there and that could be a whole area of technology and innovation but for those down here or say city centre it seems far to go.” (DJ, coLAB)

“I’m always looking to Hackerspace and coLAB to have connections and talk to people but it’s a little far.” (RT, SmallWorld)
The coLAB space is also less engaged with the broader community than it could be but has, perhaps due to its membership composition, had greater interaction with some events and connections to certain partners, specifically in terms of playing host.

"Nothing really direct or official. But we open our doors to any of these groups and let it be used. I mean we did the first Startup Weekend here. All the meetings as well, the planning meetings like for Startup Weekend or Barcamp have often happened here." (DJ, coLAB)

"Mainly from the perspective of providing the open space. Not sure it makes sense in terms of the space itself... it's what the people are doing." (JB, coLAB)

Though SmallWorld is resident to a number of increasingly successful start-up businesses its membership tends to draw on either students or those at the early stages of their professional development. By contrast, many of the organisers of coLAB have been or are presently embedded in external private sector partners relating to technology and are involved in community event organising. This access, independent of the spaces, could be a significant factor both in terms of being able to promote coLAB as a space to be used for events and being aware of potential connections to be made. The converse of this, the fact that coLAB organisers are all otherwise employed and taking part on a voluntary basis, is that there is little energy or motivation to promote or organise events by or of the space itself. One respondent put it succinctly.

"Need someone to do that, but most of the regulars just want a beer at 6pm. They don't want to spend their weekends doing promotions." (JB, coLAB)

**CHALLENGES**

For coLAB, this lack of structural impetus or a central organiser is considered a major impediment to greater engagement with other potential partners. Despite an initial flurry of workshops and training events occurring at the space, current offerings are sporadic and inconsistent. Most respondents identified the lack of staff or a central person organising and identifying opportunities as the cause and traced this back to a lack of financial resources. The consequences of this were felt doubly. First, individuals tended to ‘burn out’ after having repeatedly been the ones to organise events without compensation. Second, attendance to hosted events could be spotty depending on the specific organiser’s abilities and their access to the channels of promotion.

"Main one is money. Bigger is perhaps that we're running it as freelancers. We could use someone in charge, someone to drive it forward, figure out what people want and seek it out. A combination of factors but the main thing is the lack of someone organising things and marketing them." (JB, coLAB)
“Unfortunately the events just started to fizzle out. And the projects, nobody really picked them up, there were a lot of projects, possibly due to lack of money, resources, equipment.” (DJ, coLAB)

It would appear that fostering greater engagement from the SmallWorld community faces a different challenge, that there is some suspicion of the intent of non-national participants in this community.

“We are not trying to isolate ourselves from others but we do not want to forget ourselves because others will have their own intention. And we see that they make some mistakes, or lack attention to Cambodian’s perspectives or insight, not many would think it’s the right thing to do.” (RT, SmallWorld)

One respondent after investing a significant amount of time at the SmallWorld space found herself frustrated.

“I found that myself... tried to be a mentor but... young people in that scenario have to decide if they go into it and have a mentor they need to decide how much they are going to listen to them.” (LB, SmallWorld)

This suspicion of others groups is something that the respondent from Development Innovations identifies.

“I think there is still an unspoken fear of competition, that we will be duplicating each other’s effort, I think we need to get beyond that.” (SN, Development Innovations)

Illustrating this same point one of the respondents from coLAB states the following.

“NGOs are often a roadblock. The businesses not so much, they are pretty upfront about this is what we want, this is what we offer, etc.. But the development aid organisations work a lot more sort of cloak and dagger, you don’t really know what they trying to do, and they pour a lot of money and it’s kind of hard to compete with them.” (CB, coLAB)

The gap in cultural expectations and attitudes between both potential users of the spaces, as well as between the spaces, in terms of different levels of professional experience, for example between students and consultants, as well as in terms of cultural and linguistic gaps between Cambodians and expatriates presents another challenge.

“I think a space is useful but we can’t rely on it alone to do the job, so even when we have an event and have some students living on $50/month and we have a CEO there, they aren’t going to necessarily interact. It’s quite intimidating for them. So that’s one of our challenges, how to be less intimidating to people from a different background.” (SN, Development Innovations)

“Part of the reason mostly freelancers, not Khmer students, price, location, ambience. Intimidation factor.” (JB, coLAB)
“Language and cultural stuff. Language barrier. One of the reasons that we tend to collaborate and interact more with the expats who come through and it’s mostly because of the language thing.” (KT, SmallWorld)

In trying to organise a shared event or project there is the very central question of what language should it be run in. If done in Khmer, a large proportion of the expatriate community would be excluded, if English a similar exclusion would take place of Cambodians. While in the case of an event or workshop it is possible to offer translation services (assuming one has the budget), but in the case of building a collaborative community across such boundaries, one in which regular informal exchange of tacit knowledge can occur, no such option exists. In practice, most of the events described as part of the mapping exercise take place in English, it serving as the lingua franca for the technology and entrepreneurship communities. This is however less than ideal and is quite possibly one of the key determinants in the formation of the sub-grouping of events connected to SmallWorld, taking place in Khmer language and largely disconnected from the broader community funded and supported by private and development sector partners.

Overcoming these challenges is not easy. Key to doing so will be identifying and articulating the shared values and intentions between participants, the mutual objectives and opportunities that are present.

**OPPORTUNITIES**

Across the board there are shared expectations of what the collaborative spaces and the broader community can offer participants. Knowledge exchange and learning remain the fundamental attraction in the eyes of both participants and organisers. The demand for this has remained steady despite challenges in implementation. Likewise there is a widespread belief in the spaces ability to make technologies and resources available to people wanting to build a start-up or to learn new skills.

“Learning is the main thing. More learning related things.” (MS, coLAB)

One suggestion shared by respondents at both coLAB and SmallWorld is the idea of organising a shared project or business idea; something that could serve both to address the facilitating of collaboration, familiarising participants with each other’s skill sets, and also offer some financial benefits for the space and participants. In the case of coLAB the suggestion was as follows.

“To build a small programming team on one of the freelancing sites. Learn to use the sites, and get training in the subject and make a bit of money for the space, for the people involved.” (JB, coLAB)
Ultimately developing this sort of programme could be a successful linking of the worlds of entrepreneurship and innovation, and a demonstrator of the power of collaborative endeavour.

Greater opportunities lie in extending the collaborative links between the three spaces. In the case of SmallWorld and coLAB, both have been successful at drawing a specific community of users: Cambodian students and creative young entrepreneurs, and expatriates working in the realm of information technology respectively. And both communities have something to offer each other in the form of the enthusiasm and experience. The challenge is of course finding common ground on which to operate and to overcome the barriers to making it happen. The respondent from Development Innovations addresses this point.

“Our challenge is to try and find the commonalities that matter to us. They need to have a reason, if they do they need to see beyond each other’s differences. We all carry certain stereotypes about people and I think it’s easy to write people off even before we start to work with them.” (SN, Development Innovations)

It is possible that as hub of the Phnom Penh collaboration community, Development Innovations may be able to bridge this gap, offering things to both communities that attract participation and engagement and proving a useful mechanism for continued collaboration. The question of ongoing support is of course an issue and as a three-year project there is no expectation or guarantee that the space will exist after the conclusion of the current funding. Part of the mandate of the project is to ensure its self-sustainability. How this will occur is unclear given the financial challenges faced by the other two spaces in relation to their specific communities as well as the location and expense of the large Development Innovations facility.
Findings

Collaborative spaces like those discussed in this paper have been identified as important sites for reconfiguring the flows of power present within globalised knowledge economies and a means of empowering those typically at or beyond the margins of technological discourse, of having their voices heard (Liang, 2010). The degree to which this is occurring in the Phnom Penh community described is up for debate. While SmallWorld is successfully encouraging young people to become entrepreneurs and to provide mutual support to each other, coLAB has been less successful in engaging this same demographic. In absolute terms SmallWorld and its resident start-ups have generated far more employment opportunities than their counterparts at coLAB. This is no doubt partly due to the membership composition of the spaces being dominated by locals and expatriates respectively as well as the explicit focus on fostering entrepreneurialism that the former space has.

Though there is a tension between the organic development of innovation and the constraints of intentional constructs, the sheer fact of creating a space within which people can explore ideas is a step towards generating innovative solutions to social problems and supporting entrepreneurial development. This is a result of the fundamental communicative nature of the issue being addressed: how can interexchange of knowledge and skills, and the facilitation of the establishment of communities of practice be encouraged. Space, both in terms of a physical locality within which this can occur and also as a social constructed realm that allows people to explore ideas and patterns of behaviour outside their typical routines, is a necessary element in making this happen but it is only part of the equation. In pursuing communicative practice in this regard, specific attention needs to be paid to the building of the participating communities and addressing their needs and desires. Despite the demand for these types of learning and collaboration spaces by young people in Phnom Penh, a rapidly developing city with a very large youth population, coLAB has failed to attract participation by those potentially most benefitting by access to such a space. What this means for the future of the space is less clear.

As a hub for this exchange, perhaps Development Innovations will be more successful; drawing in participation from a broader demographic and due to its significant financial and staff resources be better able to build links between both private and development sector partners, and the large numbers of young people interested in technology, innovation and entrepreneurialism. Being a development intervention, and given its fundamental communicative ambitions it will also remain to be seen how successful it is at deploying current strategies within communications for development practice. Though its objectives of fostering
social innovation and entrepreneurship are clearly defined, how it facilitates the communicative empowerment of local participants, and gives voice to those typically marginalised within information and technology discourses, will be a significant measure of its success.

Further research

The development of the three spaces investigated in this paper and their shared community is an ongoing process. Since concluding research, Development Innovations has accelerated its activities and launched several new programmes, while participants at SmallWorld and coLAB have also been engaged in new endeavours. Charting these, and subsequent developments, and their impact on driving greater inter-cultural, cross-sectoral knowledge exchange and collaborative projects would be a worthwhile exercise.

Looking deeper, it would be of interest to investigate further the apparent suspicion or lack of interest some Cambodians working within this community have towards both development-sector and expatriate-led projects and programmes. There could be important lessons to be learned with relevance for future development interventions of this nature; interventions that, given their situation at the confluence of technology, communication and entrepreneurialism, seem to be growing in number.

Lastly, given the recent and increasing focus by development partners on this arena, it would also be interesting to spend more time looking at the differences of approach that they employ compared to, for example, private-sector technology and innovation initiatives. These fields have been often driven by profit motives and tempered through competitive market forces, factors that are often not at the forefront of development projects. Whether sidestepping these, to some degree, will encourage greater collaborative innovation through greater communicative exchange and practice would be a worthy line of investigation.

Concluding remarks

“Just looking at it from the thousand-foot view, it seems to be happening. Ever since we opened there’s been more and more people that I’ve met, organisations that I’ve discovered, events and meet-ups that I never knew existed, so yeah, from a thousand-feet it seems to be achieving that goal.” (DJ, coLAB)

The purpose of this research has been two fold. First there is the question of whether a community of collaboration, innovation and entrepreneurship anchored to three collaboration spaces exists within Phnom Penh. To this, the answer is partially yes, there is a varied range of events and sponsored groups happening in the city as outlined in the illustrated knowledge architecture. Utilising the three spaces as hubs, we can see that there exists a dense network of direct and indirect relationships between the spaces and other actors including private sector
partners, development partners and educational institutions. With that said, it is partial, and the linkages and collaborations tend to be taking place within certain sub-communities, SmallWorld for example has been more actively involved in events that have not been directly linked to by other members of the community while coLAB’s interactions have tended to be less formalised and reliant on participants’ already existing connections to other nodes in the network. Development Innovations, being so new, has yet to fully implement its plans but seems, so far, to be directly interacting with a broad range of network members and already taking on board its role as a knowledge hub within this community.

The answer to the second question, the degree to which this collaborative engagement between the spaces and with the broader community is being driven and articulated as such, is less clear. Many participants from the three sites share a vision of what the community consists of and what its shared goals may be. That said, there are still some major differences both in terms of awareness of what is happening and what the goals are of the various identified nodal points. This was particularly evident when looking at the differences in responses between individuals most connected to the network via other channels, for example private sector partners and other events to projects, and those who are more casually involved, students for example, with the latter far less likely to be able to identify other participants in this arena.

Given the shared goals of collaborative learning and knowledge exchange and the advancement of entrepreneurial ideals, there would seem to be much ground to develop further partnerships and the idea of an explicit community. Challenges to overcome include funding and organisational consistency on the part of the two smaller spaces and in the case of the third, overcoming scepticism of their intentions from other community members. In all cases the cultural divide between professionals and students, Cambodians and expatriates remains a challenge due to a range of factors, not least language which remains a significant barrier.

Despite this, many participants in this community are positive about the prospects for its growth and continued development. The phenomenon of collaborative spaces, though now established in Cambodia for over three years and having taken on a number of forms, is still new and evolving. Organisers of these spaces are still developing the model by which they will succeed, and community participants are still figuring out how to best engage with them, but there is a high degree of shared values and aspirations for what kind of community it could be.
Annex 1

DEVELOPMENT PARTNERS AND FUNDERS

**USAID** – The United States Agency for International Development is responsible for the delivery of overseas civilian aid by the United States Government. They are a major donor to Cambodia and are involved in many projects across the country and in Phnom Penh.

**Embassy of Sweden - Phnom Penh** – This is the Cambodian mission of the Government of Sweden and is responsible for consular as well as business and development cooperation with Cambodia.

**Kotra** – The Korea Trade Promotion Corporation is an overseas trade and investment promotion organisation funded by the South Korean Government. Among their activities in Phnom Penh is business acceleration and incubation programme partnering young Korean business people with their Cambodian counterparts to advance investment and business cooperation between the countries.

**InStedd** – Is an American non-profit organisation funded by Google and the Rockefeller Foundation to promote design and technology based solution to health and social problems in the developing world. In Phnom Penh they are represented by the InStedd iLab, open since 2008, it is a collaborative project bringing together local and foreign technology experts to address health and sustainable development issues within the region.

**Open Institute** – Is a Cambodia based NGO founded in 2006 with the goal of advancing democratic participation and citizen engagement through the application of information and communication technologies. Funders for their work gave included USAID, UN Women and the Swedish Program for ICT in Developing Regions.

PRIVATE SECTOR PARTNERS AND FUNDERS

**Ezecom** – A major provider of internet services within Cambodia and is responsible for the management of the incoming and outgoing backbone connections to the broader internet. They are part of the Royal Group, one of Cambodia’s largest private sector conglomerates.

**Yoolk** – Is one of the larger local software development firms and whose main product is the Yellow Pages directory service, to which they have the rights to within several national markets.

**Golden Gecko** – Is a larger international software development firm with offices also located in Europe and North America. They maintain a large team of primarily local developers in Phnom Penh which works on projects secured by the ‘main’ offices overseas.
**Sabay** – Is a large local media company involved in the realms of gaming, magazines, music, web content and other new media communications products primarily targeting the Cambodian youth demographic market.

**Cellcard** – Is the largest provider of mobile phone technologies and service in Cambodia. It is part of the Royal Group.

**Aruna Technology** – Is a small mapping and geo-information firm providing services to both development and private sector partners as well as being a local distributor of technology such as GPS devices.

**Digital Divide Data** – Is a large international social enterprise with offices in Cambodia, Laos, Kenya and the United States focussed on bringing outsourced data entry and processing jobs to its teams in the developing world. It claims to be the largest technology-related employer in both Cambodia and Laos.

**Web Essentials** – Is a medium sized web development firm focussed on bringing overseas clients to its largely Cambodian development team.

**Universities**

**Limkokwing University of Creative Technology** – Is a Malaysian-owned international chain of private universities focussed on creative and technology related disciplines such as information technology, design and communications. In addition to their campus in Phnom Penh they also operate in Botswana, China, Indonesia, Lesotho, Sierra Leone, Swaziland and the United Kingdom.

**Institute of Technology of Cambodia** – Is a technical institute based in Phnom Penh and founded in 1964 as part of a joint initiative between the Cambodian and Soviet Union’s Governments. Its primary focus is on engineering science and other technical fields.

**Paññasastra University of Cambodia** – Is a large multi campus, private university open since 2000. It offers a wide range of academic programmes.

**Royal University of Phnom Penh** – Is Cambodia’s oldest and largest university. Founded in 1960, it currently offers a wide range and undergraduate and graduate level academic programmes.

**Norton University** – Is a private university founded in 1996 with a focus on computer science, information technologies and engineering.

**Build Bright University** – Is a large private university founded in 1998 offering campus facilities in several provinces of Cambodia including three in Phnom Penh. It offers a wide range of courses focussed on business, management and information technologies,
GROUPS

Khmer Enterprises – Is a group of young Cambodians, aided by a large network of local and international advisors, unified in their aim of promoting entrepreneurship to other young Cambodians through events and mentorship.

Khmer Young Entrepreneurs – Is a similar group of young Cambodians linked together to promote the idea of entrepreneurship and cooperation to their peers. They are the primary organisers of Khmer Talks.

Share Vision – A group of young Cambodians from a range of professional and technical backgrounds who organise events to promote knowledge and experience exchange. Though focussed primarily of technology and software, their aim is to act as a hub in a more general sense promoting the sharing of knowledge and experience to promote community and business development.

EVENTS

Startup Weekend – Is an international series of weekend long competitions between teams formed around start-up ideas pitched by individuals on the first day of the event. Ad-hoc work together to build the idea and product before presenting to a panel of judges drawn from the local and regional technology and entrepreneur communities.

Barcamp – An international movement of conferences without pre-planned agendas. Topics for discussion are submitted by, voted on and decided by participants on the first day. The series emerged out of the San Francisco software scene and has quickly become popular worldwide. The Cambodian series has been going since 2008 and regularly tops two-thousands participants in Phnom Penh.

Khmer Talks – A event series loosely modelled on the TED talks format, localised to the Cambodian context partly in response to a pair of TEDx events held in Phnom Penh in 2011 and 2012. It is the project of Khmer Young Entrepreneurs and is a Khmer language event.

FOSS Asia – Is a recent event taken place in Phnom Penh promoting open source technology solutions and link building between open source software practitioners and other business community members in the region.

Nerd Night – A regular event series, popular with expatriates, where individuals are invited to present on a ‘nerdy’ topic of their choice in a format consisting of twenty slides with twenty seconds to present each slide.

Tech Camp – Is a global series of interactive conferences organised by the US State Department as part of an agenda to link civil service organisations with technology innovators in
service of addressing predefined social issues. The issue identified for the recent Phnom Penh iteration of this event was the ‘combatting of human trafficking’.

**Let’s Do It Phnom Penh** – Is Phnom Penh’s version of a global civic movement organising individuals to join together and clean up municipal waste as part of a designated event.

**Good For Nothing Challenge** – Is an international event series bringing together technologists and innovators over the course of an event to solve a defined social problem. The Phnom Penh challenge was organised by a group of people based in New Zealand coming to partner with three local NGOs over the course of a week.

**JCI Debate Competition** – Is a competition organised by the local chapter of Junior Chamber International to increase young locals debating skills and improve general knowledge.

**National Business Plan Competition** – Is a national competition of small and medium enterprise business planning skills organised by several academic and private sector funders.
References


