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Knowledge Cities
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In some occasions 21st Century has been nominated as the Century of Cities. One reason for that is the ongoing definite urbanization. At the same time 21st Century has been nominated as the Century of Knowledge. (Carillo, 2011.) Information exploitation, learning, readiness to change, competence and innovative capability have become the core concepts of knowledge cities and communities.

That development may be seen in the challenges to develop knowledge-based societies and economies and regions. That has been possible by eg. enhancing industry – university interaction by building an innovation system around them. The major paradigm shift has changed to 'open systemic thinking'. From this perspective, regional development is a constantly developing interactive process, where reformation and learning are based on broad information flows, experience, and in-process learning. That refers also to empowerment of the economy and community life.

Open systems refer to novel processes where end users become service designers, service co-producers and assessors. That is supported by open data and information flow. From this perspective, services are constantly developing, interactive processes, where reformation and learning are based on information, experience, and in-process learning, regarding the realization of services as well as the planning of service processes, which employ the concepts of co-production and co-creation, for instance. Technological solutions are a part of open systems. Thus the new technological advances change those knowledge cities and regions and are transforming the organisational structures within those. The models that drive continuous improvement and engagement have are shaping our thinking; we no longer expect there to be just one correct way of doing things. In the digital age, we now have new models for learning, social innovation and for co-designing and co-creating new services in collaboration with the citizens. (Laitinen, 2016.)

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The New Commons: Knowledge, Markets and Crowds in Cities

Collaboration for SIG PASCAL Observatory

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Introduction

If we watch a bit closer, in most of our urban communities a new way of conducting creativity and innovation is already operating, quasi-independently of the current money system. Its chief ingredients are intangible assets such as time, imagination, knowledge, initiative and trust, face to which money has quickly moved from primary to secondary concern (Allen, S et.al., 2009; Paquet, 2010). In the process, cities are building knowledge repositories or “depots” of information and “know-how” strategies from which they can withdraw elements of creativity to thrive in challenging times. Seemingly, in knowledge-based urban communities ‘people link to form knowledge-based extended networks to achieve strategic goals, cultivate innovation and successfully respond to rapidly changing conditions’ (Chatzkel, 2004:62). But are ready for New Economy models? The *European Economic and Social Committee* (EESC) and other international planning entities are advancing some answers to their audiences¹. Clearly these emerging frameworks also could imply a more mature stage of understanding the dynamics of the *Commons*, and the challenges behind managing them. There is no easy path to it, but clearly, alternative regulating models are urgently needed as we further develop knowledge-based societies and economies, “at the center of which the logic of the *commons* would perform an essential role in how we handle organizations” (Vercellone,et.al., 2015:4). The *commons* have now assumed different colours and shapes, from Elinor Ostrom's (2007, 2014), in her *Knowledge as a Commons*, into *cognitive capitalism*, *collaborative consumption*, or the more radical advancements of the *Peer-to-Peer Economy proposal*. These models seem to be nudging us to develop *Commons*-based organization systems. They are above all, social constructions based on the value-creating capabilities of knowledge and self-governance logic, and not on the pre-assumed nature or value of goods. That is why practices for governance of commons loudly resonate, based on collaboration and sharing. They portray elements of the *collaborative economy* and the *sharing economy* models in which shared resources and infrastructures promote the development of the commons, and they have started to act as a new significant form of economic and social

¹ <http://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/new-sustainable-economic-models>

organization. Emerging forms of organizations like *Uber*, *Airbnb*, *Kickstarter*, *Cropital*, *Guardian Angels*, *RocketHub* and many others are examples of what some authors have already analyzed from the point of view of the *knowledge-based markets* model (Carrillo, et. al., 2014). Hence, in this opportunity, my contribution to Pascal Observatory will be an outlook of *knowledge cities* as *knowledge markets*, in the context of the New Economy models, such as the emerging *Economy of the Commons*.

Knowledge Cities and Knowledge Markets Systems

In a previous opportunity here in the Pascal Observatory, we invited you to a collective journey in which the knowledge-based development (KBD) community had engaged to define the concept of the iconic *Knowledge City* (<http://pascalobservatory.org/pascalnow/pascal-activities/news/cities-platforms-and-smart-cities-issue-two-summer-2016-pascal-sig->). It traveled through the KM generations that have made KBD radical views possible, and gathered a rich collection of elements that attempted an outlook where the Knowledge City is portrayed as a complex *Capitals System* entity, which we can now see as embedded in a greater *Knowledge Market System*. I also shared the Knowledge city definition as ‘a city purposefully designed to nurture knowledge’ (Edvinsson, 2002; in Dvir and Pasher, 2004:17); a city “in which its citizenship undertakes a deliberate, systematic attempt to identify and develop its capital system, with a balanced and sustainable approach” (Carrillo, 2004:34). There are a number of historical examples of cities that follow the KC pattern. They evoke historical elements of core cities of the past, where open, informal places were the space for knowledge to be liberally shared. As modern Agora, *Knowledge Cities* encompass the underlying assumption that knowledge and ideas are created mainly through *conversations* (Dvir and Pasher, 2004:17, 21). In emerging Knowledge Cities, the dynamics of learning and clustering are encouraging knowledge-intensive organizations and institutions, characterising them as ‘engines of innovation’ and major agents of change and economic growth (Wolfe, 2004:1). Innovation is progressively understood as “knowledge-based innovation” or the creation and application of marketable goods and services exchanged in **knowledge-markets** for the advancement of society as a whole (Dvir and Pasher, 2004:17, Carrillo, 2010).

Knowledge Markets, Networks and Crowds in Cities

Clearly, a lot of the measurable social capital of human communities is triggered by interactions in the marketplace. The internet, extranets, and intranets, are increasing those interactions exponentially (i.e. e-Bay, Amazon, FaceBook Marketplace etc.). That’s also a promise for *knowledge markets* (Davis, 2007). This vision of **Knowledge Markets** is conglomerating notions of knowledge-based

agents, social capital and learning through conversations, in which networks are the core basic structure and scaffolding of urban reality. Hence, notions like **Open Dealing** or **Crowd Dealing** (just to name some examples) comes naturally embedded in the social structures created by the knowledge markets and knowledge networks interactions. Hence, *crowdfunding*, *social innovation*, *Open Source Cities* and *Virtual Communities* are all **types** of knowledge markets, each with some specific features. In the knowledge-based development literature on the subject, Carrillo (2014) has provided a consolidated typology of knowledge markets, on the basis of the following criteria: A knowledge market is a) Capital-inclusive, b) Translational, c) Formal, d) Flexible, e) Bottom-up and f) Transformative (Carrillo, 2014:250). This taxonomy can accommodate both face-to-face and virtual transactions, and can be grouped in ten main categories and subcategories, with some sample initiatives, as per the following list (Carrillo, F. J., et. Al. (2014):

Knowledge Market	Knowledge Submarket
Intellectual Capital Dealing	IP Trading, Technology Trading, IC Trading, Intellectual Capital Partnerships
Open Dealing	Peer-to-Peer, Customer-to-customer, Open Sourcing, Open innovation, Transparency
Crowd Dealing	Crowd funding, Crowd Casting, Crowd Testing, Crowd working
Cooperative Dealing	Co-operativism, Collaborative Consumption Co-housing, Co-sharing, Co-working
Non-monetary Dealing	Frugal Innovation, Self-Sufficiency, Moneyless Initiatives, Pay-it-forward Initiatives, Cognitive surplus, Voluntarism
Social Dealing	Social Innovation, Social Entrepreneurship, Micro-entrepreneurship
Alternative Currencies & Incentive Regimes	Digital Money, Local Currencies, Tokens, Incentive Regimes
Alternative Banking	Barter, Pawn Brokering, State Lotteries, Food Banks, Time Banks, Skill Banks, Physical Assets Banks, Service Banks, Space Banks, Public Banking, Alternative Lending, P2P Lending
Open Social Learning	Citilabs, Fablabs, Hacklabs, Living Labs, Tech Shops, Innovation Bootcamps.
Social Network Markets	Professional Social Networks, Social Media, Virtual Communities

For instance, **crowd funding** can be classified under the **Crowd Dealing** type of generic knowledge market which is seemingly “one of the most successful and rapidly evolving forms of market organization” (Carrillo, 2014: 253). **Crowd dealing** involves a collective effort in favor of political campaign funding, scientific research, venture capital raising, and social innovation. Hence, **crowd funding** can be defined as “the direct financial funding of projects by a community, brought together by common interests online” (Carrillo, 2014: 254). There are a good number of initiatives and websites for crowd funding, of which a well-known example is *Kickstarter*. Like many others, it conveys a funding platform for different creative projects, ranging from comics and videogames to fashion, film and food, with a time limit to raise the necessary funds for individuals projects. It is reputed to be a safe, user-friendly and effective platform. Other international crowd funding efforts are **Start some good**, (<https://startsomegood.com/projects>) and **Go fund me** (<https://www.gofundme.com>). This latter one

was recently praised for the capabilities put in place in trying to save Charlie Gard's life, a UK born baby with a rare disease in urgent need for surgery in the US. Charlie's heartbreaking story highlighted the role and power of crowdfunding efforts for humanitarian and any other worthwhile causes.

Economy of the Commons and Solidarity Economy as Alternative Social Structures

At the macro level, there have been numerous attempts to generate awareness on international networks' social capital through knowledge market exchange. Seemingly, an effective way of creating synergies within such international communities and networks of practice have been Knowledge City (KC) benchmarking frameworks. At the beginning of the millennium, these models sought to gather consensus on knowledge-based development (KBD) practices to identify and recognize best practices in a number of aspects of urban communities: economic competitiveness, entrepreneurial activity, environmental sustainability, freedom of expression, e-government initiatives, or innovation (Cf. Kriščiūnas and Daugeliene, 2006). Hence, a stream of awards of different nature are being presented to cities: *Global Location Attractiveness Ranking*, *Global Competitiveness Report*, *Best Business Environment*, *Transparency International*, *Intellectual Property Rights Protection*, *Most Globalised Nation in the world*, *Most Network-Ready City*, *Most Walkable City in the World*, and the *Most Admired Knowledge City Awards* (which we are familiar with), just to name a few. These frameworks have now multiplied and streamed into converging paradigms parallel to the New Economy, such as: *Fair Trade*, *Ethical Banking*, *Social Economy*, *Solidarity Economy*, *Functional Economy*, *Commons Economy*, *Transition Town*, *Degrowth*, *Blue Economy* and *Circular Economy*, amongst many others². For the purposes of this collaboration, we would like to mention only two of these concepts, as they will be useful for the kind of crowdfunding example we intend to build.

Along with *crowd dealing*, ***open dealing*** (see previous paragraph on knowledge markets) is an element that could develop a ***Common Good Economy*** (CGE). Some scholars think that this type of knowledge market is enabling a new mode of production and exchange in new forms of interaction. Seemingly, CGE creates the potential for a transition to an economy that can be generative towards people and nature (Felber, 2012). Michael Bawens and Christian Felber, amongst others, are advancing some economic features that they believe could profoundly change human society. CGE is a model and movement coined by Felber (2012), includes actors that are prominent in the Pascal-SIG initiative: resource sharing organizations, institutions of higher education, and all those organizations that develop policy.

The CGE advances a model in which businesses do not need to have a bottom line that is profit and endless growth, but human dignity, justice, sustainability and democracy (Felber, 2012). CGE as a

² <http://www.eesc.europa.eu/sites/default/files/resources/docs/presentation-diego-isabel-160517.pdf>

movement, has gathered an international community of organizations that have evaluated their success according to human dignity, solidarity, ecological sustainability, social justice and democratic participation; essential values that serve the common good. They believe the outcome of CGE engagement is a good life for all living beings and for the planet, underpinned by an economic system that serves the common good³.

The movement gives hope and courage, and seeks mutual networking with other initiatives. (Felber, 2012). There is an enormous variety of such systems: from free Wikipedia to free/open-software projects, to open design and hardware communities; also re-localization initiatives and community currencies (Bauwens, 2015). Seemingly, the key point of Peer-to-Peer (P2P) social structure is that it has the capacity to allocate resources that do not involve any specific reciprocity between individuals, but only between the individuals and the collective resource. Now, the concept and action of *commoning*, is used in the sense that it describes the capacity to contribute to the creation and maintenance of any shared resource. Although there are multiple definitions of “the “commons”, for the purposes of this paper we will adhere to David Bollier’s characterization of the commons as “a shared resource, co-governed by its user community according to the rules and norms of that community” (Bollier, 2011⁴).

This view of commons includes water and land, but also shared assets or creative work such as digital commons, cultural and knowledge artefacts, also known as the *new commons*. These new commons are presumably moving from the periphery of the socio-economic system to its core, bringing a clear transformation to system relationships and social dynamics in different realms: the market, the state and the community. Hence, some scholars foresee a fundamental shift in the rules and norms that decide what *value* is and how it can be produced and distributed in society. In that sense, commons-based peer production, P2P dynamics are the seed of a new social model. In this model, our civil societies become productive through the participation of citizens in the collaborative creation of value through commons. It is about making the commons a core institution that “guides” all other social forms — including the state and the market — towards achieving the greatest common good and the maximum autonomy. This utopia, against all odds, has already some real case applications.

Indeed, notions and typologies of knowledge markets are undoubtedly the foundational basis of city-building, and is taking new shapes and forms with Latin American examples of crowd dealing (crowdsourcing) and other platforms. According to the *Crowdfunding’s Potential for the Developing World* report⁵, published by the World Bank at the end of 2013, “it is estimated that there are up to 344 million households in the developing world able to make small crowdfund investments in community business [...] together, these households have the ability to deploy up to US\$96bn a year by

³ <https://www.ecogood.org/en/>

⁴ Bollier, 2011 en <http://www.bollier.org/commons-short-and-sweet>

⁵ http://www.infodev.org/infodev-files/wb_crowdfundingreport-v12.pdf

2025 in crowdfunding investments.” Launched in April 2013, **Broota** (<http://www.thecrowdcafe.com/platform/broota/>) was Latin America’s first equity crowdfunding platform. The company was headquartered in Santiago, Chile and has successfully closed three equity transactions since inception, raising roughly \$363,000 (203MM Chilean pesos) for three Chilean startups, including itself. **Ideame** (<https://www.idea.me/>) has raised money to build a 10 mts high statue in Argentina, part of a collective homage to its First Nations People. It also raised money for a project in Mexico to collect and recycle waste from fluorescent lamps. Ideame, is a crowdfunding platform created in 2011 in Chile and Argentina and which quickly expanded to Mexico, Uruguay, Colombia and Brazil. They were inspired by Kickstarter but there are some big differences. They have adapted a model for a region, for a completely different audience. “Most of the projects funded in this way in Latin America are focused on creative or social impacts, while in the United States they are more focused on technology. Another main difference is that you have on just one platform projects from different countries, creating networks and increasing the exposure of the campaigns.”⁶

Other crowdfunding in Latin America include Catarse (<https://www.catarse.me/pt>). It was created in 2011 by five young Brazilian entrepreneurs, and it claims to have taken the space left open by “a great failure of the traditional systems for funding creative projects in the country”. The site has raised 40 million Reais (around US\$10m) mainly for cultural and social projects. Another Latin American example is **Codeando México**. (CMX, www.codeandomexico.org). It is an ICT network that gathers software developers, technologists, designers, citizens, public officials, scientists, artists and other organizations that find in technology a means to solve problems in Mexican society. One of its projects is to support an Open Source city model that would show better possibilities in view of cities future, as a prospective research direction. It was the case for contexts like the Mexico-Texas border, along with forward thinking about the possibilities of implementation of the model of open source cities in the city.

On the other hand, the term social and **solidarity economy** (SSE) was used as an economic organizing concept as early as 1937, when Felipe Alaiz advocated for the construction of an *economía solidaria* between worker collectives in urban and rural areas during the Spanish Civil War (Miller, 2010). SSE developed by the mid-1990s into a growing social movement with a shared core features: a) they have explicit economic AND social (and often environmental) objectives; b) they involve varying forms of co-operative, associative and solidarity relations⁷. SSE identifies all economic activities that contribute to the democratization of the economy, based on solidarity and work. It is not a sector of the economy, but a transversal approach which includes initiatives in all sectors of economic activity. It aims to become an alternative way of conceiving the economy: a new form of organization of society around productive resources and their concept of progress and welfare.

⁶ <http://www.idgconnect.com/abstract/16092/crowdfunding-grows-latin-america-creative-twist>

⁷ <https://blogs.worldbank.org/publicsphere/what-social-and-solidarity-economy-and-why-does-it-matter>

Through new forms of work on aspects such as production, distribution, consumption, market, finance, trade, and others, it advances an alternative to the capitalist mode of production. The grounds for a solidarity-based economy is the introduction of increased levels of cooperation and solidarity activities, organizations and economic institutions, so as to generate a set of social and cultural benefits that go beyond the sphere of economic profit and benefit the social group as a whole. Hence, notions like **Cooperative** and **Social Dealing** or **Alternative Banking** (just to name some examples) comes naturally embedded in the social structures created by the SEE model of knowledge markets. A number of documented cases of SSE can be found in <http://www.opale.asso.fr/article427.html> and for the specific case of Latin America: <http://www.eco-nomiasolidaria.org/documentos> which promote the SSE principles: solidarity-based economic structures non-exclusive, non-speculative, where the individual and the environment are the axis, the end "and not the means" to get decent living conditions for all.

Closing Remarks

This contribution has aimed to portray how much the measurable social progress index of rural and urban human communities is triggered by interactions in the marketplace. The internet, extranets, and intranets, are increasing those interactions exponentially (i.e. e-Bay, Amazon, Twitter, Uber etc) which seems to be a keen promise for *knowledge markets* (Davis, 2007). This vision of **Knowledge Cities** is conglomerating notions of knowledge-based agents, development and learning through conversations, in which observatories such as Pascal will play a prominent role in structuring and scaffolding the framework of knowledge-based urban communities. It aimed to advance practical evidence of Knowledge City concepts embedded in the networks, markets and crowds universe within the KDB discipline, particular aspects of the Commons Economy models led us to identify new social forms of organization likely to emerge. Most importantly, the contribution has attempted to portray how Knowledge City definitions are intertwined in the rising of *P2P Economy* and *New Economy* frameworks. In such context, a glimpse of the role played by different capital systems, has revealed them as articulators of Open Dealing and Crowd Dealing principles within Latin America's urban communities. Also, as some specialists have observed, a new economic and social alignment is under construction, by

- a) Changing the "Narrative" of capitalist economies
- b) Re-dereccting the Educational system
- c) Supporting Programmes that include Entrepreneurs, innovation and ecological incentives.

Finally, following a deeper sense of urgency, this contribution has aimed to reflect on the meaning creation of emerging forms of social organization, where K-City schemes for sustainable development are also more than ever likely to be revealed. In fact, as more radical networks, markets and crowds frameworks converge, they could portray a more balanced and realistic outlook of complex capital systems in the global KBD arena. Indeed, as notions of *Knowledge Markets* continue to be present in KBD practice, further theoretical aspirations could develop the social organization shapes here presented. The gap in the literature in regards of the understanding of how urban communities are built, still stands as how they thrive in emerging relational contexts such as the *Economy of the Commons*. As the challenges and findings of this research are on the table of discussions, further advancements of the *Knowledge City* (and Open Source City) models in theory and practice is intently expected.

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