CREATIVE ECOSYSTEM FRAMEWORK: A CASE STUDY OF WORLD CREATIVITY DAY

Estrutura do Ecossistema Criativo: Estudo de caso do World Creativity Day

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Resumo
O domínio dos ecossistemas tornou-se conhecido desde que a colaboração entre indústrias se tornou o principal fator de inovação e evolução econômica. A importância da abordagem do ecossistema pode ser identificada no crescente surgimento de plataformas colaborativas, com a criatividade sendo a principal característica para o desenvolvimento desse ecossistema criativo. Este artigo tem como objetivo destacar a importância dos ecossistemas criativos emergentes. Assim, com base em uma abordagem de estudo de caso, serão enfatizadas as principais características do processo de cocriação e o desenvolvimento de redes colaborativas por meio do envolvimento de seus indivíduos. O resultado previsto é entender o potencial de criação, inovação, crescimento e disseminação de um ecossistema criativo. Além disso, propõe a estrutura do ecossistema criativo, com base em sua estrutura observada e nos papéis dos indivíduos.

Palavras-chave: criatividade; ecossistema criativo; cocriação; inovação; rede.

Abstract
Ecosystems' domain became well known since the cross-industrial collaboration become the main driver of innovation and economic evolution. The importance of the ecosystem's approach can be identified in the increasing emergence of collaborative platforms, with creativity being the main feature for the development of this creative ecosystem. This paper aims to highlight the importance of emerging creative ecosystems. Thus, based on a case study approach, there will be emphasized the key features regarding the co-creation process, and the development of collaborative networks through its individuals' engagement. The foreseen result is to understand the creation, innovation, growth, and dissemination potential of a creative ecosystem. Also, it proposes the framework of the creative ecosystem, based on its structure and individual's roles.

Keywords: creativity; creative ecosystem; co-creation; innovation; network.

Resumen
El dominio de los ecosistemas se ha dado a conocer desde que la colaboración entre industrias se convirtió en el principal factor de innovación y evolución económica. La importancia del enfoque por ecosistemas puede identificarse en la creciente aparición de plataformas colaborativas, siendo la creatividad la característica principal para el desarrollo de este ecosistema creativo. Este artículo tiene como objetivo resaltar la importancia de los ecosistemas creativos emergentes. Por lo tanto, con base en un enfoque de estudio de caso, se enfatizarán las características principales del proceso de co-creación y el desarrollo de redes de colaboración a través de la participación de sus individuos. El resultado esperado es comprender el potencial para la creación, innovación, crecimiento y difusión de un ecosistema creativo. Además, propone la estructura del ecosistema creativo, en función de su estructura observada y los roles de los individuos.

Palabras llave: creatividad; ecosistema creativo; co-creación; innovación; red.

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Introduction

Human culture and the ways we humans are in the world have evolved profoundly since we were hunter-gatherers. We have evolved from primitive stone tools to our present high-tech society; from social system based on small kin groups to national governments and international global systems. The distribution and transmission of culture and social systems across geographic areas, times, and generations are arguably the main engines of civilization.

If major characteristics that make us human are interpersonal relationships and the ability to create, creative ecosystems are human relationships directed towards creation. From this point of view, there can be referred to major changes that occurred at the moment and new emerging economies that depend upon these changes, such as the Creative Economy. As technologies continue developing and being adopted, they start enabling new ways of organizing how value is created, giving way to a new type of ecosystem, that relies on the strength and creative capacity of their members. So, there are still gaps for new research opportunities.

This study and the resulting framework is a response to the needs to better understand such creative ecosystems. The aim is to shed some light on what these creative ecosystems are, how they are built-in practice, and how members and non-members approach them. To this end, a framework has been developed that can provide a reference to a practical approach, including key elements that can be used to create, develop, and engage with the creative ecosystems. The framework, developed using literature review and a case study observation approach, is described in this article.

The paper is structured as follows: First is provided a basic definition of creativity and how to approach it in the creative ecosystem perspective. A short description of the World Creativity Day creative ecosystem then follows. Following that, is outlined the current need for a practical framework that helps tackle the understanding of a creative ecosystem, then is described the methodology used to develop this framework. Finally, is explained the framework of the creative ecosystem and the use of this framework for creativity's development.

1 – What is creativity?

To understand creativity, we first need to understand its meaning and emergence. The study of creativity is relatively recent; it was only officially born when, in 1950, J. P. Guilford points out the importance of exploring it as an independent field of knowledge (Guilford, 1950; Amabile, 2012; Cropley, 2012; Runco, 2017). The search for the meaning of the creative phenomenon brought new ideas for its study since the understandings of creativity are filtered through culture, context, experiences, values, beliefs, and other particular characteristics of the individual (Garcês et al, 2016; Alencar, 2016).

Creativity is never an individual act, but a systemic act of interaction between the creative person and its socio-cultural environment, which will recognize it as a genuinely creative act or not (Plucker, Beghetto & Dow, 2004; Guilera, 2011). We can interpret creativity as both an individual and social phenomenon; while it manifests itself as an idea, action, or product developed by one or more individuals, it needs to be recognized by society or group. Therefore, the development of the individual's creativity is crucial for economic, scientific, social, artistic, and cultural advancement (Runco & Jaeger, 2012; Richardson & Mishra, 2017).

2 – Creativity's approach in the creative ecosystems

Despite the initial idea of the Guilford's Structure of Intellect Model, it was Rhodes (1961) who noted that there was a confluence between the various definitions of creativity and that these seemingly distinct definitions could be grouped into four large dimensions (Garcês et al, 2016). These dimensions became known as the *4 Ps of creativity*: Person, Process, Product, and Press.

These four dimensions offer a guide for the definitions of creativity today, and can be described as: the creative person, taking into account their values, emotions, habits, and behaviors; the creative process, through perception, imagination, motivation, learning, communication, and creative thinking; the creative product, such as ideas, discoveries, arts and theories; and environmental and cultural influences, involving education and culture (Dias et al, 2004; Cabrera, 2018). This way of looking at creativity has allowed us to see it in a viable, intuitive and organized way, once the 4 Ps of creativity classified by Rhodes (1961) offers an integral and comprehensive vision of creativity.

Analyzing Rhodes' theory, we see how the concept of creativity evolved from the dimension of the person, passing through the practical/pragmatic/experiential (dimension of the process/product) until finally reach the perspective of the influences of social, cultural, and historical factors (Alencar & Fleith, 2003; Sanmartin, 2019). To Csikszentmihalyi (1996, p.23):

> Creativity does not occur within individuals, but is the result of the interaction between the individual's thoughts and the socio-cultural context. Creativity must be understood not as an individual phenomenon, but as a systemic process.

For Sanmartin (2019), the systemic model of Csikszentmihalyi proposes that creativity is the result of the individual's action based on his own experiences and knowledge, in a specific domain (culture) that will be evaluated and validated by specialists in that field (social system). This way, it is possible to understand where the creative action is located in time and history and to consider how its knowledge and implications interfered with the sociocultural context. Through this perspective, it changes from a personal attribute to a social good, and as a human characteristic, it is the best way to explain changes from an individual or social point of view in all areas of knowledge and human activity (Torre, 2005).

This approach is useful in interpreting the nature of creativity both from an empirical and practical point of view. Then, being the creative act the fruit of the individual inserted in a particular context, it was sought to explore next how the systemic model interacts with the creative ecosystem.

3 – The elements of the creative ecosystem

An ecosystem is a system formed by communities and its environment that functions as a unit (Kauffman, 2016; Dervisholli, 2019). These living systems are the example of organized complexity, in which the integrated behavior of the system coordinates the actions of many elements (Kauffman, 1993; Harrington, 1999; Johnson, 2010; Valdez-de-Leon, 2019).

Thus, an ecosystem is not a single final unit; it is made up of subunits, and it may itself be the subunit of some broader collectives and the dynamic interactions between them (Harrington, 2011; Taleb, 2015). It's about how people meet, talk, trust, share, collaborate, team, experiment, and grow together. When an ecosystem thrives, it means that the people have developed patterns of behavior – or culture – that streamline the flow of ideas, talent, and capital throughout a system (Galateanu & Avasilcai, 2017; Dervisholli, 2019).

The same can be applied to basically any ecosystem, even digital ones (Vollenbroek, 2019). For Valdez-de-Leon, digital ecosystems is a "loose networks of interacting organization that are digitally connected and enabled by modularity, and that affect and are affected by eachother's offerings" (2019, p.44). For Taleb (2015, p.139):

> Many things, such as society, economic activities, markets, and cultural behavior, are apparently created by man, but they grow by themselves to reach some type of self-organization. They may not be strictly biological, but they resemble the biological, in the sense that, in a way, they multiply and replicate - think of rumors, ideas, technologies, and companies.

For the purposes of this paper, will be adopted the definition of Harrington, which a Creative ecosystem is defined as "the entire system from which creative activity emerges, including three basic elements, the centrally involved creative person(s), the creative project, and the creative environment, as well as the functional relationships which connect them" (1999, p.323).

Apparently, biological, digital, and creative ecosystems share the same *modus operandi* with three key elements: the individuals, the networks, and the platforms, which will be explored next.

3.1 – The individual's element

Human beings are, internally, complex ecosystems compose of several microorganisms living in harmony (Kauffman, 1993). Following the three key elements of an ecosystem, each neuron is an individual forming a complex network with a high degree of interdependence, supported by the platform, which in that case is the brain. With more than 100 billion neurons, the human brain contains 100 trillion different neuronal connections, making it the largest and most complex network on Earth (Johnson, 2010). But what matters in our mind is not just the number of neurons, but the myriad of connections that form between them, that is, the greater ability to establish these complex connections, the greater the chance to adopt new configurations and generating ideas (Taleb, 2015; Harari, 2017).

But, besides our biology, the way we interact with each other and how we form ideas is also an ecosystem (Johnson, 2010; Harari, 2017; Christakis, 2019). To create, a person will consider how to properly respond to needs, sensations, perceptions, and imagination, so he or she receives stimulus from both internal and external sources, perceiving its environment in a unique way (Rhodes, 1961; Cabrera, 2018; Simonton, 2019). Our creativity is not something apart from the world; it originates in the response to a social need and must be inserted in a sufficiently advanced stage of culture and techniques inherited to allow the emergence of a certain idea. However, the greater the complexity of this system, the greater the likelihood of generating ideas.

But real ecosystems are not totally connected, so the network alone will not work. Typically, each individual interacts with a subset of the total number of other individuals, coevolving with one another and with a changing environment, so it needs a platform where it can operate (Kauffman, 1993; Harari, 2017). Therefore, to understand creative ecosystems, it is not enough to understand the interaction of neurons; it is also necessary to take into account the interaction of ideas.

The dynamics between the individual and the environment is one of the most important issues in the analysis of creativity, since creativity is the result of the interaction between the person, the task and the environment, shaping the patterns of our achievements, society and culture (Cohen & Ambrose, 1999; Sternberg & O'Hara, 1999; Plucker et al, 2004; Gladwell, 2008).

The creative potential, as well as innovative features, are essential for ecosystem development, and our capacity to collaborate in a large number of individuals, families, and groups made us masters of creation (Galateanu & Avasilcai, 2017; Harari, 2018; Hlupic, 2018). But the implementation of these creations depends crucially on whether there is a human ecosystem with the social and environmental consciousness, once the quality of the ecosystem depends entirely upon the quality of the human element.

3.2 – The network's element

A good idea is a network. But the network does not generate ideas by itself, individuals must be connected to it. To make our mind more creative, we need to insert it into environments where we can share our ideas, that is, creative ideas are more likely to appear and spread among the general population if connected to a network (Kadushin, 2012; Christakis, 2019).

Normally, the ecosystem has some extensive web structure, where an avalanche of changes initiated at local points in the web may propagate to various extents throughout the ecosystem and the particular pattern of interactions can have a big effect on the behavior of the system (Kauffman, 1993; Newman, 2010). This behavior of the networks is what Johnson called *Information Overflow* (2010, p.65):

> A metropolis shares a fundamental characteristic with the web: both environments are liquid and dense networks in which information flows easily along multiple and unpredictable paths. These interconnections fuel great ideas, because great ideas often come to the world badly finished, more as intuitions than revelations. (…) For this reason, most great ideas are configured first in a partial, incomplete way. (…) Liquid networks create an environment in which these partial ideas can connect; (…) They facilitate the dissemination of good ideas, of course, but they also do something more sublime: they help to complete ideas.

Paul Baran (1962), in na effort to improving the survivability of the communications network, proposed three possible network architectures: a *centralized network*, a *decentralized network*, and a *distributed network*, as depicted in Figure 1.

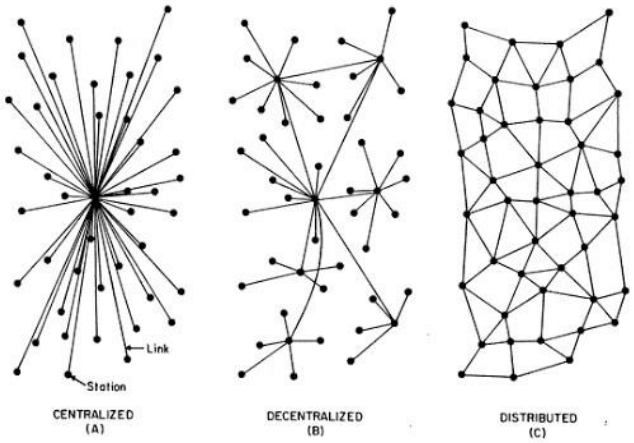

Figure 1 – Centralized, Decentralized and Distributed Networks

In that sense, a good idea is a network, but how the connections happen between these ideas is the most important, once the connections in a social network affect how people learn, form opinions, and gather information. For Kauffman (2016), this happens because of *recombination*: old products and services can eventually be divided and recombined in different ways. The more diverse and the more complex is the network, the easier it is to find new combinations and the more likely for complex ideas to emerge.

3.3 – The platform's element

The awakening of creativity is associated with the growth of complex social groupings, which emerged during the development of the human being through a long-term process strongly influenced by the environment (Johnson, 2010; Harari, 2018). Ideas emerge in abundance and spread more easily within certain borders, and all of these complex social environments were emerging platforms.

A platform typically is focused on bringing the ecosystem together and reducing friction for interactions to take place. Through the platform, a particular community is organized to interact with one another and to create value, once they make people think differently generating an environment in which different types of thinking could collide and recombine in a productive way (Sawyer, 2006; Christakis, 2019). Galateanu & Avasilcai (2017) noticed that companies start to use web developed instruments to provide more attractive and competitive products, this includes the use of specially designed platforms for creative ideas generation and internal innovation enhancement. The social technologies developed to support this objective often offer a variety of functionalities to stimulate social interaction between community members.

The increasing number of collaborative communities led to the emergence of new forms of engagement and development, where these platforms are been used as efficient and effective vehicles for knowledge management and are rapidly becoming the driving force of innovation across the world (Bujor et al, 2019; Vollenbroek, 2019). In a study conducted by Christakis (2019), three thousand groups on an online game were analyzed, and he concluded that bigger groups with modest levels of hierarchy help to keep the group together. These groups had a social-network structure and higher densities of ties and good connections with others.

These platforms share lessons-learned, coordinate solutions and experience-creating activities, and provide a selection of shared services, in addition to the platform development itself (Fischer, Lago & Liu, 2013; Galateanu & Avasilcai, 2017). Platforms are needed to create bridges between the chaotic external world and the internal organized world of the ecosystem.

4 – Building a creative ecosystem: Creativity as a social construct

Human imagination built amazing networks of mass cooperation and communities of interacting individuals with a high sense of collaboration, at the same time that the imagined constructs that supported the social order became more elaborate. Everyone moves in different cultures and environments and, consequently, is connected to them. For Morin (1999), human beings and societies are *multidimensional*: a human being is a biological, psychological, sociological, emotional, and rational being; society includes historical, economic, sociological, and religious dimensions.

Contemporary views of creativity are generally more diverse and complex once we have to consider a huge array of concepts, such as sociohistorical views, groups, benevolent intention, brain, knowledge, emotions, and many other concepts (Choi,

Glăveanu, & Kaufman, 2020). For Glăveanu (2010), creativity is an inseparable phenomenon from historical and cultural contexts, especially from the 80s onwards, when creativity becomes a *We-paradigm*, that is, emphasize the creative collaboration and co-creation.

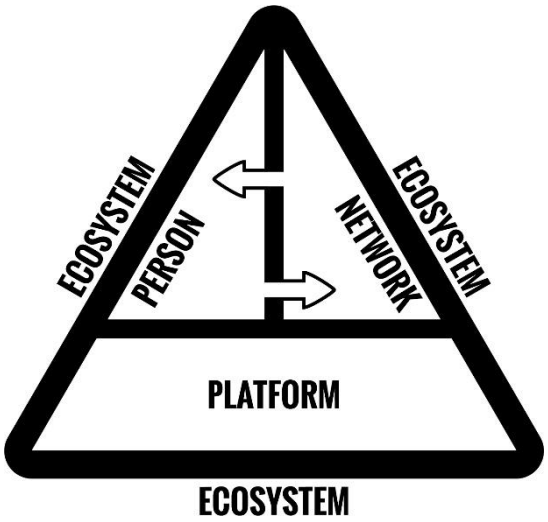

Figure 2 – Creative Ecosystem Structure

In Figure 2, we can see how the creative ecosystem is structured, been necessary the adaptation capacity of the **PERSON** inside the **ECOSYSTEM**; the openness and connection capacity of the **NETWORK**, favoring the share information and the flow of ideas between the individuals; and the capacity of the **PLATFORM** to offer a creative environment that favors the sharing and connection between people and ideas (**PERSON ⇄ NETWORK**).

To collaboration to happens, the individual, as a member of the creative ecosystem, has adaptation as a fundamental element, since it involves a large part of the influences that shape the relationship between the individual, culture and the environment, as well as cognitive, emotional and motivational elements, being the adaptation one of the most relevant questions for the analysis of creativity (Cohen, 2012; Runco, Acar & Cayirdag, 2017; Reeves, 2019). However, it is not always necessary for the individual to adapt to the environment; he can also shape you according to your needs and desires or move to an environment more conducive to the development of your skills and interests, based on your previous experience. For Sinek (2012, p.96):

> Most people who are born and raised in a culture will, for obvious reasons, end up adapting reasonably well to that culture. We feel better in cultures with which we adapt well. We feel better in places that reflect our own beliefs and values.

In this sense, culture is the combination of tradition, values, customs, rules, behaviors, and beliefs, as well as the political, economic, and technological issues that impact a group in a given time and space (Cohen, 2012). To adapt well to this culture, the individual must contribute to transforming the environment with products or ideas of value. Adapting means finding a useful and rewarding way of living, but it requires sufficient education and development in one or more fields to be achieved (Morin, 1999). However, openness and connectivity are more valuable for stimulating creativity than purely competitive mechanisms, because giving space for the individual to create generates trust (Tang & Werner, 2017; Morais & Almeida, 2019). This trust comes from being part of a culture or a group with a common set of beliefs and values, which are

maintained when they are managed actively and collaboratively (Fleith, 2019). So, for the individual to achieve this balance between his abilities and the environment, the environment must offer opportunities and support for the development of these capacities and also have his talents recognized and encouraged with the appropriate instruction and materials.

The members of the ecosystem can be organizations, businesses, and/or individuals, all creating value for one another in some way (Dervisholli, 2019). According to Pidun, Reeves & Schussler (2019), an ecosystem offers critical benefits such as access to a broad range of capabilities, the ability to scale quickly, and dynamic and flexible internal structures, rather than static classical hierarchies.

What is determined in the ecosystem as creative is related to how the members evaluate the act or idea, being this social and cultural perception related to shared values and beliefs by individuals in the network (Alencar, 2016; Garcês et al, 2016). In this scenario, the other members of the ecosystem are essential for the realization of individual creativity, because creativity does not exist until that determined group recognizes that a given individual contributes with original ideas and products to the environment (Simonton, 2000).

Creativity involves choices, some with deeper effects than others. The ecosystem emerges from the interaction between individuals, connecting them and creating value, and those with great creative potential carry greater responsibility for the possible consequences of their thoughts, as they shape their surroundings.

5 – A creative ecosystem has born: The World Creativity Day

The World Creativity Day (WCD) is a global community that brings together educators, social entrepreneurs, business leaders, technologists, policymakers, researchers and other agents of change to promote and connect initiatives to specific and actionable challenges around creative skills, development innovation, sustainability, and economic and social aspects. The World Creativity Day is also a celebration of creativity, designed by local leaders and volunteers, with the main focus on developing activities of the most different formats and carried out in a structured way.

The WCD was celebrated for the first time on November 17th, 2014, Creativity Day on Portugal's calendar, as an initiative of ProjectHub, a digital platform for creative entrepreneurship. The first edition of the event originated around the visit of John Howkins, creator of the term Creative Economy, who went to Brazil to talk about how creativity and innovation interfere in the economy. After Howkins' opening, representatives of companies like Google and Heineken also spoken about creativity and innovation. In the Howkins' words:

> Creativity always starts with a person, having a very intimate and personal idea that is only imagined. At some point, that person needs to share this idea with others. Every great idea is born in an intimate forum, and every great idea needs support for it to be realized.[2]

However, the WCD is not the only world event to celebrate creativity. World Creativity and Innovation Day (WCID), today World Creativity and Innovation Week (WCIW), was founded on May 25th, 2001 in Toronto, Canada, by creativity specialist Marci Segal, in response to the Canadian National Post headline, "Canada in a creative crisis"[3].

[2] https://www.projetodraft.com/john-howkins-entrevista-economia-criativa/

[3] https://wciw.org/about-us/history/

Rhonda King, Ambassador of the United Nations and Permanent Representative of Saint Vincent and the Grenadines, was looking for a way to introduce creativity to solve the problems we are currently facing when she found Marci's WCID. On April 27, 2017, United Nations Ambassador I. Rhonda King established, through Resolution 71/284, the World Creativity and Innovation Day April 21, as a UN International Day of Observance. In Resolution 71/284, can be noticed three core points for the need for the emergence of creative ecosystems (United Nations, 2017):

- *Invites* all Member States, organizations of the United Nations system and other international and regional organizations, as well as civil society, including non-governmental organizations and individuals, to observe the Day in an appropriate manner and in accordance with national priorities, in order to raise awareness of the role of creativity and innovation in problem-solving and, by extension, economic, social, and sustainable development;
- *Stresses* that the cost of all activities that may arise from the implementation of the present resolution should be met from voluntary contributions;
- *Requests* the Secretary-General to bring the present resolution to the attention of all Member States, organizations of the United Nations system and other international and regional organizations, as well as civil society, including non-governmental organizations and individuals.

April 21, the day before Earth Day and six days after Leonardo da Vinci's birthday, was chosen as World Creativity and Innovation Day to emphasize the importance of using new thoughts to create a decent life for everyone in a sustainable planet[4]. Thus, April 21 becomes a space reserved for people to have a reason and opportunity to use their imagination productively, release new thoughts, and celebrate Creativity. For Foster (2018):

> Creativity is increasingly recognized as a strategic asset for sustainable economic, social and environmental development. Having the UN recognition that establishes a World Day of Creativity, as an official date on the international calendar is an achievement and a source of pride for us, who have been fighting for it for so long.[5]

In response to the request of the United Nations on Resolution 71/284, Lucas Foster, with his expertise in digital platforms, officializes the WCD as a platform to help connect people around the world and made it possible through collaboration, giving birth to the world's first social network for creativity. Thus, World Creativity Day aims to:

- Promote creativity to find the best solutions to specific real challenges through community engagement, education, and inspiration;
- Summon and build a community of creative leaders and transformers committed to promoting creativity and innovation to find solutions to economic, social, cultural and environmental challenges;
- Support these creative leaders in building strong creative communities, promoting partnerships between members of the WCD community.

After Resolution 71/284, in 2018, through the WCD initiative, the Day was celebrated in 14 cities in Brazil, mobilizing 132 activities around the theme. In 2019, the WCD was celebrated in 4 countries, in a total of 51 cities, mobilizing 735 activities, making the WCD the main initiative to inspire and celebrate creativity around the world.

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[4] https://www.un.org/en/events/creativityday/

[5] http://www.portaldapropaganda.com.br/noticias/15621/dia-mundial-da-criatividade-apresenta-seu-logo-e-novas-cidades/

In 2020, present in 115 cities in 15 countries, the WCD remodeled its digital platform, in order to meet the new demand, presenting: WCD Network, a Communication platform; WCD Booking, a Technology and Management platform; and the WCD School, an Education platform. These platforms aim to promote:

- **Optimism:** Although there are great challenges in the world, human creativity can always solve them;
- **Partnership:** No organization, sector or person can build creative communities without the support of a network;
- **Crowdsourcing:** Talent and creativity are everywhere, and we need to take advantage of that. Innovation must begin, end and involve the people for whom they were designed;
- **Human-centered technology:** Solutions will include a technological component, but they must also consider political, economic, and cultural barriers and ensure that technology is adopted primarily by the most deprived communities.

6 – The structure of World Creativity Day

The WCD shows that acts of creativity should be viewed as the outcome of a well functioning creative ecosystem. Creativity, then, must be understood and defined as the changing of relationships within a dynamic ecology, where these changes fuel social systems capable of coping with more and more stuff, giving the creative ecosystem an increasingly advantaged across time (Hlupic, 2018; Christakis, 2019). Besides that, being the individual both the source and the summit of ecosystems, the human factor must be at the heart of it.

The WCD is structured with modest levels of hierarchy in order to help to maintain a healthy social-network structure and higher densities of ties with good connections between all members. The WCD is formed by members as:

- **Global Committee:** Members responsible to organize and coordinate the event, and select and aid the Local Leaders of the World Creativity Day;
- **Local Leaders:** Members responsible to organize, promote, and celebrate the World Creativity Day in their communities and cities;
- **Volunteers:** Members willing to aid the Local Leader to organize, promote, and celebrate the World Creativity Day in their communities and cities;
- **Inspirers:** Members invited by the Local Leader to participate in sharing their knowledge and know-how through different activities during the WCD;
- **Hosts:** Members who receive any of those activities offered by the Inspirers during the WCD;
- **Participants:** Members who participate and enjoy the activities proposed by the Inspirers.

7 – Creative Ecosystem Framework

The WCD perspective largely determines how the roles or member types are identified and defined, but in general, as pointed by Drew, McCallum & Roggenhofer (2016), three recurring member types can be identified: the community leader (*Local Leader*), the contributor (*Volunteer, Inspirer, and Host*), and the information absorber (*Participants*).

These data offer new perspectives on developments of creative ecosystems; one of these developments is pinpointing the roles of these members based on their social interactions and behaviors. So, it is proposed in this paper a framework of roles and connections between creative ecosystem's members:

- **Key-player (decentralized):** Idealists and dreamers with high capacity of achievement to shape and transform the ecosystem;
- **Community (distributed):** Idea generators, motivators, and a task force that collaborates and cooperates;

- **Curators (centralized):** Disseminator of information and content, spreading the filtered ecosystem knowledge within their followers, viewers, or listeners.

In Figure 3, we can see a graphic representation of how the creative ecosystem behaves, but the ecosystem can contain more than the number of individuals represented. *Key-Players* exchange important information with each other and then share with their respective *Community*, where each member of that community becomes a *Curator*, sharing this information with their network of contacts external to the ecosystem.

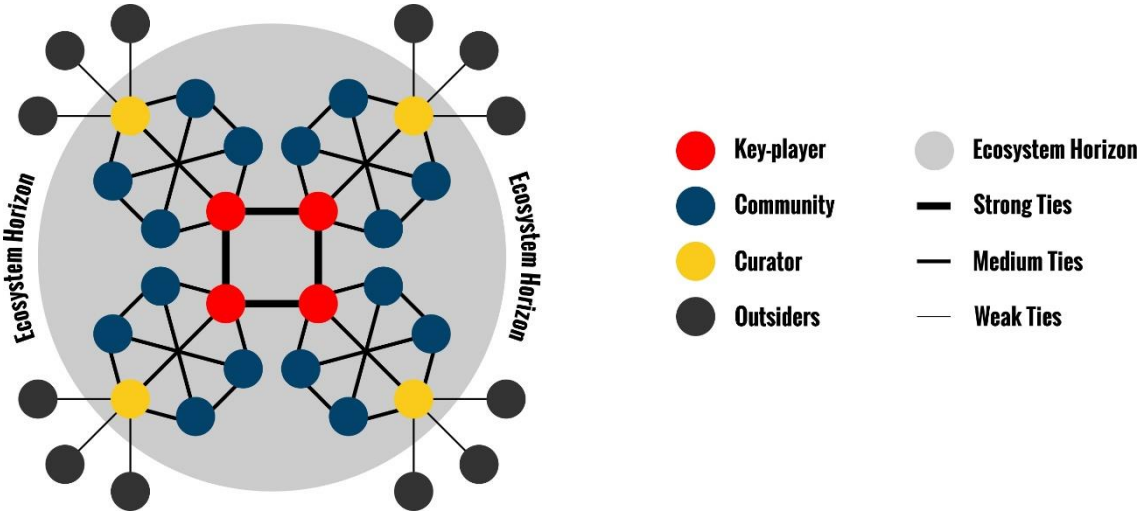

Figure 3 – Creative Ecosystem Framework

For Johansen (2020), a new kind of connectivity is taking shape today as we move from centralized to decentralized to truly distributed networks; and the creative ecosystem operates, in general, as a distributed network. However, within a creative ecosystem, we can observe a functioning by a hierarchy of influence and/or learning where this relationship is circumstantial, that is, depending on the situation, the individual can adopt a different role with a specific kind of connection, or even assume all roles at the same time.

This new form of circumstantial leadership should be seen as a set of actions and responsibilities rather than a designated role, therefore it is very close to a degree of equality (Johnson et al., 2015; Edelmann et al., 2017). By giving more responsibilities to the Community members, these members become able to express and experience a greater sense of commitment and empowerment within the Community (Zhu et al., 2012). But, although everyone can enact some level of leadership behavior in a Community, this does not imply an equal distribution and the same effectiveness of leadership behaviors across individuals.

The Key-Player has to be a highly influential person, capable of engaging and motivate their Community members to realize certain tasks (Jiménez-Zarco et al., 2014; Koller et al, 2020). In that case, Key-Players can be any actor, even a company or enterprise, which is normally led by a Director or CEO, this is, normally someone in a leadership position.

Members normally possess heterogeneous but complementary knowledge and skills, being the Community members crucial to adapt the Key-Player's ideas. For Vollenbroek (2019), the leader's ideas are often rooted in collective processes in which their Community provides an error-tolerant and risk-rewarding atmosphere, stimulating to articulate new ideas and concepts, and stimulating others to become active community

members and share their knowledge, experiences, and best practices. But a common identity must establish to be effective, where such identity is often seen as one of the fundamental determinants for an individual's obligation to the Community. For Marshall (1997, p.185), "identity is the principle that is most fundamental to all self-organizing systems. It contains the Community's meaning, purpose, and intentionality and provides the coherence around which system stability emerges".

The Community normally are the sum of different sub-communities as a means of promoting knowledge exchange and collaboration among members who have similar interest. Christakis (2019) explains that a member who values the same things other members do will continually be acting to transform the local ecosystem into a form that benefits all, as a by-product of their actions to make the world suitable for themselves. So, once the members of the Community share values and norms of behavior, the development of strong, ethically based, and morally binding norms of behavior are one characteristic of a creative ecosystem's Community. With a high interdependence and complexity, any change has to be 'accepted' by the Community's leaders before spreading through the ecosystem (Taleb, 2015; Vollenbroek, 2019).

Within a creative ecosystem, some individuals are members of several circles and clusters which tend to overlap in hierarchical ways. Once it is unlikely that one member alone possesses all capabilities needed to develop an initial idea into a full-fledged ecosystem change, the members will probably seek the help of others who are also interested in the same idea (Koller et al, 2020). According to Kadushin (2012), it takes but a few overlaps for the entire ecosystem's network to be "rewired" so that connections are made between units that might otherwise not be connected.

The Community plays an increasingly pivotal role in knowledge management and collaboration and networking activities, reacting to barriers or opportunities identified by their members. For Rosenthal (2017), building communities increases our trust in others, and it accelerates our opportunities to solve important problems, once the highly specialized knowledge of the Community does not only provide the possibility to identify emerging threats and opportunities, but they are also the reason why new members join the Community. To create, the Community should be continuously developed and updated the base of knowledge and innovation, and sharing knowledge with *outsiders* is a crucial activity for the success of a Community (Galateanu & Avasilcai, 2017).

The Curator emerges as an informal member serving as a channel for interaction and exchange of the expertise of the Community members with outsiders, that is, outside the Ecosystem Horizon, controlling its connectivity and therefore its dynamics (Kauffman, 1993). Wasko & Faraj (2005) have found evidence that individuals with higher levels of expertise are more likely to provide useful advice and share relevant knowledge than people who feel that their expertise is inadequate. Most Curators are domain experts motivated to exchange knowledge with their outside network, and they are critical for importing and sharing new knowledge from other distant fields, helping the Community to extend or recombine its existing knowledge (Johansen, 2020; Koller et al, 2020).

Siemsen et al (2008) and Turner & Pennington (2015) recognize an individual's ability to express himself or herself in a meaningful manner as one of the key components in the exchange of knowledge. By sharing knowledge and stimulating social behavior, Curators may gain personal rewards while at the same time contributing to the creation of new social relations, producing additional network externalities with outsiders, once they have a high level of motivation to participate and a strengthened perception of group identity (Chang & Chuang, 2011; Kovanovic et al., 2014). Besides that, by

maximizing the use of their social networks, Curators also helps the ecosystem become more efficient, effective, innovative, sustainable, and creative (Heinz & Rice, 2009; Tseng & Kuo, 2014).

7 – Conclusion

Our global civilization is now weaving together, mainly driven by globalization of the commerce and of communication, but a successful creative ecosystem implementation requires a different way of thinking compared to a classical product-centric one. For Kauffman (2016) and Christakis (2019), all societies share the same core principles, so for the first time in history, we have the technological means to assure an adequate standard of living for all, or at least most of us, despite grotesque inequality in current wealth distribution. The core principles are the *capacity to have and recognize individual identity*; the *love for partners and friends*; having a *social network* and *cooperation*; the *preference for one's own group*; *mild hierarchy* (that is, *relative egalitarianism*); and *social learning and teaching*.

If we take a closer look, we can find these same principles at the core of fostering Creativity. We all need a safe space to share ideas, build trust and friendship, lead and be lead, with the deeper need to help others. We can only extract value if we create value; stability gives way to the dynamism and planning to experimentation. This differentiated approach gives way biological, organic thinking as opposed to mechanical thinking, being one of the major barriers for product-centric societies in embracing creative ecosystems.

Creative ecosystems can also be the solution to social challenges and are gradually being embraced by local governments[6]. These purpose-driven ecosystems aimed at solving major social challenges are also set to grow rapidly in importance, driving greater involvement of the public and not-for-profit sectors. As observed in the World Creativity Day, creative ecosystems require agile but also integration on larger scales – emphasizing the skills of strategic empathy, collaborative leadership and communication, which requires long-range communication with low control, to convince members of the mutual value proposition.

Creative ecosystems will undoubtedly play a bigger role in the continuing growth of most societies. The real reason for developing creative ecosystem engagement is to unleash creativity that has for too long been constrained by a traditional linear view. Because of their unpredictability and their spontaneity, creative ecosystems offer a greater idea yield from the assembled brains than traditional approaches. The challenge now is to renounce reliance on strictly strategy and power and to, instead, invite others to come onto your social platforms and contribute with their own ideas and dreams.

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